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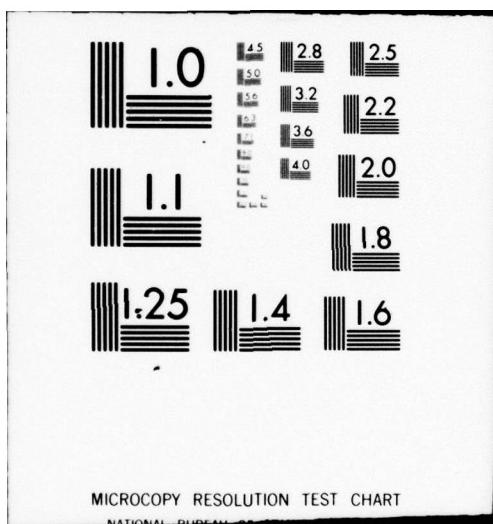
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BIBLIOGRAPHY OF SOVIET LASER DEVELOPMENTS •

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Introduction

This bibliography has been compiled under an interagency agreement as a continuing effort to document current Soviet-bloc developments in the quantum electronics field. The period covered is July-August 1978, and includes all significant laser-related articles received by us in that interval. The bulk of the entries come from the approximately 30 periodicals which are known to publish the most significant findings in Soviet laser technology. Citations from the Russian Reference Journals are included, as well as entries from the CIRC data base not otherwise covered. Laser items from the popular or semipopular press are generally omitted.

For convenience we have abbreviated frequently cited source names; a source abbreviations list and an author index are included. All sources cited with no parenthetical notation are available at the Library of Congress. A parenthetical entry (RZh, KL) indicates the secondary source in which the citation was found as a bibliographic entry or abstract, but for which the original source is not currently available at the Library. The authors' affiliations are indicated by the numbers in parentheses following the authors' names in the text and are listed in the Author Affiliations List. New affiliations are assigned a new number and are added to a cumulative list which includes all affiliations from 1969 to the present. Only those affiliations which appear in this issue are listed in this issue's Author Affiliations List.

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20. ABSTRACT → This is the Soviet Laser Bibliography for July-August 1978 and is no. 36 in a continuing series on Soviet laser developments. The coverage includes basic research on solid state, liquid, gas, and chemical lasers; components; nonlinear optics; spectroscopy of laser materials; ultrashort pulse generation; theoretical aspects of advanced lasers; and general laser theory. Laser applications are listed under biological effects; communications; beam propagation; computer technology; holography; laser-induced chemical reactions; measurement of laser parameters; laser measurement applications; laser-excited optical effects; beam-target interaction; and plasma generation and diagnostics.		

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I. BASIC RESEARCH

A. SOLID STATE LASERS

1. Crystal: Ruby

1. Dranov, L.N., D.A. Kichigin, V.S. Konevskiy, et al. (0). Using EPR to predict the characteristics of ruby crystals [for use in lasers]. Defektoskopiya, no. 2, 1978, 62-66. (LZhS, 33/78, 117083)
2. Kvapil, J., B. Perner, and Jos. Kvapil (NS). Influence of the quality of ruby on the parameters of a Q-switched laser. Czechoslovak Journal of Physics, v.328, no. 4, 1978, 465-471. (RZhRadiot, 8/78, 8Ye100)
3. Valyavko, V.V., and G.K. Zubovich (0). Effect of a magnetic field on the absorption and dispersion in the R-line region of ruby. ZhPS, v. 29, no. 1, 1978, 91-96.

2. Crystal: Rare-Earth Activated

- a. Nd³⁺
4. Kamach, Yu.E., Ye.N. Kozlovskiy, V.M. Ovchinnikov, Yu.K. Sidorenko, and L.N. Soms (0). Electrooptically-Q-switched pulsed periodic Nd³⁺:YAG laser. KE, no. 7, 1978, 1435-1443.
- b. Er³⁺
5. Petrov, M.V., and A.M. Tkachuk (0). Optical spectra and multi-frequency generation of stimulated emission in LiYF₄-Er³⁺ crystals. OiS, v. 45, no. 1, 1978, 147-155.
- c. Ho³⁺
6. Kaminskiy, A.A., V.A. Fedorov, and Ngok Chan (13). Three micron stimulated emission of Ho³⁺ ions in a LaNbO₄ crystal. NM, no.7, 1978, 1357.

d. Tb³⁺

7. Abdulsabirov, R.Yu., and I.N. Kurkin (11). New EPR centers of Tb³⁺, Tb⁴⁺ and Mn⁵⁺ ions in CaWO₄ single crystals. IVUZ Fiz, no. 8, 1978, 143-145.

3. Crystal: Miscellaneous

8. Arsen'yev, P.A., Kh.S. Bagdasarov, I. Senff, and A.V. Potemkin (0). Search for prospective media for application as active laser elements.

Kristal und Technik, no. 1, 1978, 5-16. (RZhF, 8/78, 8D1117)

9. Gusev, Yu.L., S.I. Marennikov, and S.Yu. Novozhilov (10). Generation of coherent, frequency-tunable radiation at F-centers. KE, no. 8, 1978, 1685-1688.

10. Mikhaylin, V.V., S.P. Chernov, and A.V. Shepelev (2). Experimental study of media for VUV lasers pumped by high-power x-ray synchrotron radiation. KE, no. 8, 1978, 1759-1766.

11. Timofeyenko, V.V. (240). Structure of the upper valence band of laser crystals. Odesskiy gos. universitet. Dissertation, 1977, 19 p. (KLDV, 1/78, p. 183)

4. Semiconductor: Simple Junction

a. GaAs

12. Gribkovskiy, V.P., Yu.V. Makritskiy, I.D. Mezhevich, G.T. Pak, G.I. Ryabtsev, and I.V. Yashumov (0). Study of intensified luminescence in GaAs injection lasers. ZhPS, v. 29, no. 1, 1978, 26-29.

b. CdS

13. Tarasov, M.D., V.A. Balakin, S.I. Lobov, N.G. Pavlovskaya, A.M. Sidoruk, and V.A. Tsukerman (0). Laser emission in cadmium sulfide crystals under excitation by an x-ray brehmss~~wahlung~~ pulse. DAN SSSR, v. 241, no. 5, 1978, 1058-1060.

5. Semiconductor: Mixed Junction

6. Semiconductor: Heterojunction

14. Peshko, A.Ya., and V.I. Osinskiy (0). Photoluminescence temperature dependence of the active layer of heterolasers. ZhPS, v. 29, no. 2, 1978, 278-280.

15. Velichanskiy, V.S., A.S. Zibrov, V.V. Nikitin, V.A. Sautenkov, V.K. Malyshev, and G.G. Kharisov (1). Semiconductor laser with an external selective mirror using Cs¹³³ vapors. KE, no. 7, 1978, 1465-1470.

7. Semiconductor: Theory

16. Arutyunyan, V.M. (49). Study of lasing-recombination effects and double injection in semiconductor instruments and semiconductors with a complex band scheme. Vil'nyusskiy gos. universitet. Dissertation, 1977, 28 p. (KLDV, 1/78, p. 166)

17. Deryugin, L.N., I.I. Kolbin, and I.V. Cheremiskin (0). Quenching of distributed feedback laser generation by superluminescence radiation. IVUZ Radioelektr, no. 7, 1978, 104-106.

18. Gribkovskiy, V.P., and V.K. Kononenko (0). Injection lasers and their application in optoelectronics. IN: Sb 1, 151-173. (RZhF, 7/78, 7D1373)

19. Mironov, Yu.M., V.N. Morozov, A.S. Semenov, and A.B. Sergeyev (1). Effect of external optical negative feedback on transient processes in semiconductor lasers. KE, no. 7, 1978, 1598-1601.
20. Suffczynski, M., and L. Swierkowski (NS). Exchange splitting of excitons in cubic semiconductors. KE, no. 8, 1978, 1816-1818.
21. Yeliseyev, P.G. (0). Semiconductor lasers and converters. Itogi nauki i tekhniki. VINITI. Seriya Radiotekhnika, no. 14, part 1, 1978. (RZhRadiot, 8/78, 8Yel20)
22. Yeliseyev, P.G. (0). Probability problem and physics of degradation processes in semiconductor lasers. Itogi nauki i tekhniki. VINITI. Seriya Radiotekhnika, no. 14, part 2, 1978. (RZhRadiot, 8/78, 8Yel21)

8. Glass: Nd

23. Vitrishchak, I.B., Yu.K. Sidorenko, and L.N. Soms (0). Single-pulse Nd:glass laser with radiation polarization. KE, no. 7, 1978, 1429-1434.

9. Glass: Miscellaneous

24. Buzhinskiy, I.M., Ye.I. Koryagina, and V.F. Surkova (0). Effect of TiO₂ and CeO₂ on various basic parameters of laser glasses. Fizika i khimiya stekla, no. 1, 1978, 124-126. (RZhF, 8/78, 8D1145)

B. LIQUID LASERS

1. Organic Dyes

- a. Rhodamine
25. Aristov, A.V., M.B. Levin, and A.S. Cherkasov (0). Calculating the emission rate of dye lasers in radially-nonuniform lamp pumping conditions. OiS, v. 45, no. 2, 1978, 346-350.

26. Bissinger, J., and K. Raczynski (NS). Mode-locking in a two-component tunable dye laser. Optica applicata [Poland], no. 2, 1977, 59-62. (RZhF, 7/78, 7D1403)
- b. Cyanine
27. Dyadyusha, G.G., V.M. Zubarovskiy, O.V. Moreyko, O.V. Przhonskaya, Ye.D. Sych, Ye.A. Tikhonov, and G.P. Khodot (5, 304). Active laser medium. Otkr izobr, no. 31, 1978, 568318.
- c. Miscellaneous Dyes
28. Dietel, W., and D. Kuehlke (NS). Device for converting a c-w multimode dye laser to a c-w tunable single-mode dye laser. Patent GDR, no. 125461, issued 14 January 1976. (RZhRadiot, 7/78, 7Ye187)
29. Gruzinskiy, V.V., and S.V. Davydov (0). Effect of the photo-instability of complex molecules and quenching their triplet state using laser emission kinetics. ZhPS, v. 29, no. 2, 1978, 231-238.
30. Karpushko, F.V., and G.V. Sinitsyn (3). Study of a frequency sweep regime in dye lasers. Institut fiziki AN BSSR. Preprint, no. 145, 1978, 26 p. (RZhF, 8/78, 8D1160)
31. Kopylova, T.N., V.V. Gruzinskiy, V.I. Danilova, V.F. Tarasenko, A.I. Fedorov, Ye.M. Vernigor, and K.M. Degtyarenko (3). Lasing by organic molecules under pumping by a nitrogen and XeCl* excimer laser. Institute fiziki AN BSSR. Preprint, no. 150, 1978, 18 p. (RZhF, 8/78, 8D1161)
32. Kozma, L. (3). Study of luminescence and laser radiation in organic dye solutions. Institut fiziki AN BSSR. Dissertation, 1977, 30 p. (KLDV, 3/78, 6576)

33. Vashchuk, V.I., Ye.I. Zabello, and Ye.A. Tikhonov (5). New dye laser systems with dynamic distributed feedback. KE, no. 7, 1978, 1507-1512.

2. Inorganic Liquids

3. Theory

34. Atroshchenko, V.I., V.B. Kalachev, V.S. Prokudin, and V.A. Tatarskiy (0). Liquid laser. Author's certificate USSR, no 555773, issued 17 November 1977. (RZhRadiot, 8/78, 8Ye75)

C. GAS LASERS

1. Simple Mixtures

a. He-Ne

35. Blabla, J. (NS). Stage of development of $^3\text{He-Ne}$ lasers stabilized by saturated absorption in $^{127}\text{I}_2$. Feingeraetetechnik, no. 3, 1978, 111. (RZhRadiot, 8/78, 8Ye137)

36. Bondarenko, A.N., V.K. Vologdin, and Yu.M. Krinitzyn (0). Stabilized two-frequency He-Ne laser at the 0.63μ wavelength. PTE, no. 4, 1978, 225-228.

37. Gonchukov, S.A., S.T. Kornilov, V.N. Petrovksiy, and Ye.D. Protsenko (0). Dual-mode gas laser with a waveguide-type resonator. ZhPS, v. 29, no. 2, 1978, 365.

38. Ishutin, A.N., O.A. Nikol'skiy, and V.I. Yudin (138). Operation of a He-Ne laser pumped by an SHF field. Deposit at VINITI, no. 976-78, 20 March 1978, 8 p. (RZhF, 8/78, 8D1170)

39. Kaniewska, M. (NS). Population changes of Ne levels induced in a He-Ne mixture by laser action in the intermediate IR. Part I. Evaluation of Ne atom parameters in a He-Ne lasing medium. Acta physica polonica, v. A52, no. 6, 1977, 845-853. (RZhF, 8/78, 8D1167)
40. Kaniewska, M. (NS). Population changes of Ne levels induced in a He-Ne mixture by laser action in the intermediate IR. Part 2. Mutual influence of laser actions interacting at 3.3913, 7.6994, and 5.403 μ . Acta physica polonica, v. A53, no. 1, 1978, 129-136. (RZhRadiot, 7/78, 7Yel33)
41. Kaniewska, M. (NS). Population changes of Ne levels in a He-Ne mixture by laser action in the intermediate IR. Part 3. Population transfer by the nonradiative transitions in the third group of levels in neon. Acta physica polonica, v. A53, no. 1, 1978, 137-154. (RZhF, 8/78, 8D1168)
42. Kolomnikov, Yu.D., A.P. Maksimov, and I.P. Tokareva (163). Design and output characteristics of a 0.63 μ laser with a linear I_2^{127} cell. IN: Tr 1, 67-73. (RZhF, 8/78, 8D1171)
43. Kolomnikov, Yu.D., and B.S. Mogil'nitskiy (0). Effect of the population of vibrational levels of an iodine molecule and resonance contrast [in a He-Ne laser]. ZhTF P, no. 24, 1977, 1312-1316. (RZhF, 7/78, 7D1498)
44. Konenkov, N.V., V.A. Koshel'kov, G.V. Melekhin, M.A. Pavlov, and V.A. Stepanov (128). Frequency characteristics of a glow discharge in a He-Ne mixture. ZhTF, no. 7, 1978, 1540-1541.

45. Kostin, V.N., V.V. Belous, and L.V. Sivash (34). Study of the effect of an inhomogeneous high-frequency field on various parameters of an LG-126 He-Ne laser. IN: Tr 2, 101-102. (RZhRadiot, 8/78, 8Ye60)
46. Kozin, G.I., and Ye.D. Protsenko (16). Transient processes in a dual-mode gas laser. ZhTF, no. 8, 1978, 1700-1705.
47. Krindach, D.P., A.P. Kuznetsov, and V.M. Salimov (2). Synchronization of the axial modes in a He-Ne laser by means of a Fabry-Perot etalon. KE, no. 7, 1978, 1601-1603.
48. Maksimov, A.P., B.S. Mogil'nitskiy, and I.P. Tokareva (163). Saturation of absorption in iodine and frequency stabilization according to the hyperfine components at 0.63 μ . IN: Tr 1, 60-66. (RZhF, 8/78, 8D1066)

2. Molecular Beam and Ion

- a. CO₂
49. Adamovich, V.A., V.Yu. Baranov, R.K. Bevov, Yu.B. Smakhovskiy, and A.P. Strel'tsov (0). Large volume pulsed CO₂ laser. ZhTF P, no. 16, 1978, 988-991.
50. Akanayev, B.A., S.A. Askarov, Sh.A. Gubaydulin, Ye.Zh. Sadvokasov, and D.T. Shindauletov (0). Designing the shape of electrodes for TEA lasers. IN: Sb. 2, 96-100. (RZhF, 8/78, 8D1278)
51. Bychkov, Yu.I., G.A. Mesyats, V.M. Orlovskiy, V.V. Osipov, and V.V. Savin (78). High-power pulsed CO₂ laser with a wide range of continuous frequency tuning. KE, no. 7, 1978, 1525-1529.

52. Dembovetskiy, V.V. (0). Stationary lasing and radiation pulsation regime for a CO₂ laser with nonlinear absorption. IN: Sb 3, 40-51. (RZhF, 7/78, 7D1492)
53. Dembovetskiy, V.V. (0). Lasing power peak in a CO₂ laser with nonlinear absorption. IN: Sb 3, 74-81. (RZhF, 8/78, 8D1109)
54. Gubarev, A.V., S.V. Drobyazko, and A.A. Yakushev (0). The feasibility of a gas mixture self-flowing in a pulsed periodic laser. KE, no. 7, 1978, 1595-1598.
55. Ivanchenko, A.I., and A.A. Shepelenko (0). Effect of gas makeup rate on the characteristics of a CO₂ laser. IN: Sb 4, 27-28. (LZhS, 26/78, 92502)
56. Ivanchenko, A.I., and A.A. Shepelenko (0). Electric field in a discharge transverse to the gas flow in [CO₂-N₂-He]. IN: Sb 4, 196-198. (LZhS, 26/78, 92503)
57. Kochetov, I.V., V.G. Pevgov, and A.V. Shibin (0). Effect of various parameters on the efficiency of generation at 14 and 16 μ wavelengths in gas-discharge CO₂ lasers. ZhTF P, no. 13, 1978, 779-780.
58. Kozlov, G.I., and N.A. Yatsenko (118). Study of gain in CO₂ lasers pumped by a high-frequency capacity discharge. IN: Tr 3, 185-189. (RZhF, 8/78, 8D1193)
59. Mathematical modeling of pulsed millisecond-microsecond CO₂ lasers. Institut teoreticheskoy i prikladnoy mekhaniki SOAN. Preprint, no. 1, 1978, 340 p. (RZhRadiot, 8/78, 8A235)

60. Orlovskiy, V.M., and V.V. Osipov (78). Electroionization CO₂ laser with 10 atm. working pressure. PTE, no. 4, 1978, 229-231.
61. Petrova, M.D., V.Y. Stefanov, and Kh.I. Khristov (NS). Optimum operating conditions for a TEA CO₂ laser with a double discharge in the presence of xylene. Bolgarskiy fizicheskiy zhurnal, no. 3, 1977, 299-308. (RZhF, 8/78, 8D1192)
62. Ponomarenko, A.G., and V.N. Tishchenko (0). Possible parameters of a CO₂ amplifier with nanosecond pulse widths. IN: Sb 4, 29-31. (LZhS, 26/78, 92519)
63. Rakhimov, A.T. (98). Study of the physical processes in a gas discharge plasma and the optical characteristics of laser media based on CO₂ excited by a quasistationary non-selfsustained discharge. NII yardernoy fiziki Moskovskogo GU. Dissertation, 1977, 31 p. (KLDV, 1/78, p. 168)
64. Stepanov, V.I., and V.V. Churakov (430). Improvement of output characteristics of CO₂ laser systems. VMU, no. 4, 1978, 151-158.
65. Zaroslov, D.Yu., N.V. Karlov, G.P. Kuz'min (1), and D. McKen (Canadian). Using a sliding discharge for gas pre-ionization in gas discharge lasers. KE, no. 8, 1978, 1843-1847.
66. Zhigalkin, A.K., and Yu.L. Sidorov (1). The characteristics of a volume discharge with pre-ionization by UV radiation in CO₂:N₂:He mixtures. ZhTF, no. 8, 1978, 1621-1623.

b. CO

67. Basov, N.G., V.A. Danilychev, A.A. Ionin, V.S. Kazakevich, and I.B. Kovsh (1). Cooled electroiozation laser using two-quantum transitions of a CO molecule. KE, no. 8, 1978, 1855-1857.
68. Biryukov, A.S., Yu.A. Kulagin, and L.A. Shelepin (1). Kinetics of the physical processes in a chemical CO laser with supersonic pumping. KE, no. 7, 1978, 1444-1455.
69. Konev, Yu.B., I.V. Kochetov, and V.G. Pevgov (118). Effect of pumping power on the characteristics of a pulsed CO laser. IN: Tr 3, 33-39. (RZhF, 8/78, 8D1189)
70. Zhdanok, S.A., I.V. Kochetov, A.P. Napartovich, I.V. Novobrantsev, V.G. Pevgov, and A.N. Starostin (98). Investigation of the parametric dependences for a stationary CO laser. DAN SSSR, v. 241, no. 1, 1978, 76-79.

c. H₂

71. Ross, W. (NS). High-power VUV H₂ laser pumped by an axial electric discharge. Experimentelle Technik der Physik, no. 6, 1977, 547-554. (RZhF, 8/78, 8D1183)

d. N₂

72. Bychkov, Yu.I., M.N. Kostin, V.F. Losev, and V.F. Tarasenko (78). High average power N₂ laser with longitudinal discharge. PTE, no. 4, 1978, 228-229.

73. Papakin, V.F., and A.Yu. Sonin (41). UV nitrogen laser with high specific power and fast pulse repetition rate. KE, no. 7, 1978, 1580-1582.

74. Razhev, A.M., G.G. Telegin (0). Pulsed ultraviolet molecular nitrogen lasers. Zarubezhnaya radioelektronika, no. 3, 1978, 76-94. (RZhF, 8/78, 8D1185)
75. Wojtkowiak, J. (NS). Axial discharge traveling wave pulse laser device. Optica applicata [Poland], no. 2, 1977, 37-39. (RZhF, 7/78, 7D1539)
- e. CF₄
76. Vasil'yev, B.I., A.Z. Grasyuk, A.P. Dyad'kin, and N.P. Furzikov (1). Characteristics of an optically pumped CF₄ laser. Fizicheskiy institut AN SSSR. Preprint, no. 26, 1977, 16 p. (RZhF, 8/78, 8D1207)
77. Vasil'yev, B.I., A.Z. Grasyuk, A.P. Dyad'kin, and N.P. Furzikov (1). Optically pumped CF₄ laser. KSpF, no. 2, 1978, 34-40. (RZhF, 8/78, 8D1208)
- f. Submillimeter
78. Manita, O.F. (34). Study of the parameters of an optically pumped submillimeter laser in a superradiance regime. IN: Tr 2, 97-99. (RZhRadiot, 8/78, 8Ye22)
79. Manita, O.F. (34). Energy characteristics of an optically pumped submillimeter laser using NH₃, CH₃I, CH₃F, and D₃O molecules. IN: Tr 2, 99-101. (RZhRadiot, 8/78, 8Ye23)
80. Moskiyenko, M.V., and S.F. Dyubko (34). Identification of the lasing lines of a submillimeter laser using methyl bromide and acetonityl molecules. IVUZ Radiofiz, no. 7, 1978, 951-960.

81. Vlasov, G.K., S.G. Kalenkov, and G.A. Kupchenko (118). Submillimeter laser radiation at transitions between free exciton levels in a crystal. FTT, no. 6, 1978, 1886-1888.
- g. Metal Vapor
82. Dyatlov, M.K., Ye.P. Ostapchenko, and V.A. Stepanov (0). Device for exciting the discharge tube of a metal vapor laser. Otkr izobr, no. 29, 1978, 460013.
83. Isakov, V.K., M.M. Kalugin, and S.Ye. Potapov (0). Investigation of the spectral composition of laser emission from manganese chloride vapor. ZhTF P, no. 14, 1978, 826-831.
84. Markova, S.V., G.G. Petrash, and V.M. Cherezov (1). UV gold vapor laser. KE, no. 7, 1978, 1585-1587.
85. Shuktin, A.M., G.A. Fedotov, and V.G. Mishakov (12). Superradiance at CuI lines under pulsed vaporization from pulverized copper oxide. KE, no. 7, 1978, 1592-1593.
86. Sidorov, N.K., and V.A. Yes'kin (0). Dependence of the depolarized Raman scattering linewidth in two-component mixtures on the solution concentration and fluidity. Deposit at VINITI, no. 1474-78, 1978. (Cited in IVUZ Fiz, no. 7, 1978, 156)
87. Subotinov, N.V., J. Konieczka, J. Mizeraczyk, and N.K. Vuchkov (NS). Dipolar He-Cd hollow-cathode laser. KE, no. 7, 1978, 1603-1605.

h. Gasdynamic

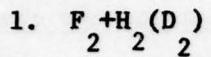
88. Achasov, O.V., R.I. Soloukhin, and N.A. Fomin (0). Numerical analysis of the characteristics of a gasdynamic laser with selective thermal excitation and mixing in a supersonic flow. IN: Sb 5, 89-90. (RZhMekh, 7/78, 7B430)
89. Antonov, S.V., A.Yu. Volkov, A.I. Demin, Ye.M. Kudryavtsev, N.N. Sobolev, and V.F. Sharkov (1). Comparing CO₂ and N₂O gasdynamic lasers. Fizicheskiy institut AN SSSR. Preprint, no. 14, 1978, 18 p. (RZhF, 7/78, 7D1435)
90. Karnyushin, V.N., and R.I. Soloukhin (0). Gasdynamic and molecular processes in flow-through gas lasers. IN: Sb 5, 85-87. (RZhMekh, 7/78, 7B429)
91. Konyukhov, V.K., and V.N. Fayzulayev (1). Kinetics of vibrational relaxation of a molecule in a gas-aerosol system, and lasers using two-phase media. KE, no. 7, 1978, 1492-1498.
92. Kovtun, V.V., N.N. Kudryavtsev, S.S. Novikov, I.B. Svetlichnyy, and P.N. Shagov (67). Influence of mixture composition on super-equilibrium chemical pumping of CO₂ molecule vibrational levels in a gasdynamic laser based on the reaction products CO + N₂O. DAN SSSR, v. 241, no. 2, 1978, 337-340.
93. Kozlov, G.I., V.N. Ivanov, and I.K. Selezneva (17). Calculating the characteristics of a CO₂-N₂-CO-H₂O-H₂ gasdynamic laser. Institut problem mekhaniki AN SSSR. Preprint, no. 99, 1977, 48 p. (RZhF, 7/78, 7D1436)

94. Krauklis, A.V., V.N. Kroshko, R.I. Soloukhin, and N.A. Fomin (0). Lasing regimes in gasdynamic lasers with thermal excitation and mixing in a supersonic flow. IN: Sb 4, 31-33. (LZhS, 26/78, 92520)
95. Kudryavtsev, N.N. (118). Method and results in determining the vibrational temperatures of CO₂ in gasdynamic lasers. Moskovskiy fiziko-tehnicheskiy institut. Dissertation, 1977, 26 p. (KLDV, 1/78, p. 176)
96. Orayevskiy, A.N., N.B. Rodionov, and V.A. Shcheglov (1). Thermal gasdynamic lasers using partial inversion. ZhTF, no. 7, 1978, 1432-1441.
97. Yevtyukhin, N.V., A.P. Genich, and G.B. Manelis (0). Modeling the working compositions for a combustion CO₂ gasdynamic laser. FGIV, no. 4, 1978, 36-42.
3. Excimer
98. Basov, N.G., A.N. Brunin, V.A. Danilychev, O.M. Kerimov, A.I. Milanich, and D.D. Khodkevich (0). Apparatus for experiments with high-power gas lasers [high-current e-beam generator to pump a KrF excimer laser]. ZhTF P, no. 24, 1977, 1297-1301. (RZhF, 7/78, 7D1537)
99. Datskevich, I.S., V.S. Zuyev, L.D. Mikheyev, and I.V. Pogorel'skiy (1). Study of a photochemical laser using the XeO molecule. KE, no. 7, 1978, 1456-1464.
100. Grinchenko, B.I. (118). Possibility of obtaining population inversion in RH excimers under intense recombination conditions. IN: Tr 3, 190-194. (RZhF, 8/78, 8D1105)

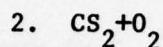
4. Theory

101. Antonov, V.M., A.M. Orishich, A.G. Ponomarenko, and G.V. Trukhachev (0).
Double transverse discharge for obtaining an optically active medium in large volumes [for lasers]. IN: Sb 4, 43-46. (LZhS, 26/78, 92495)
102. Bobashev, S.V., and V.A. Kharchenko (0). Population inversion of neon states in slow collisions of sodium ions with neon. ZhTF P, no. 24, 1977, 1316-1319. (RZhRadiot, 8/78, 8Ye51)
103. Bystritskiy, V.M., A.N. Didenko, G.Ye. Remnev, and Yu.P. Usov (0).
Gas laser pumped by an external e-beam. Otkr izobr, no. 29, 1978, 557713.
104. Dolinina, V.I., A.N. Orayevskiy, A.F. Suchkov, B.M. Urin, and Yu.N. Shebeko (1). Isotopic composition of vibrationally excited nitrogen and carbon monoxide molecules. ZhTF, no. 5, 1978, 983-990.
105. Ebert, W., G. Goebel, H. Moller, and H.B. Valentini (NS). Discharge tube for a gas laser with internal recirculation. Patent GDR, no. 125459, issued 30 April 1976. (RZhRadiot, 7/78, 7Ye448)
106. Kurbatov, A.A., and T.Ya. Popova (0). Possibility of inducing optical activity in a gas medium. ZhTF P, no. 6, 1978, 361-365. (RZhRadiot, 8/78, 8Ye263)
107. Odintsov, A.I., N.G. Turkin, and V.P. Yakunin (0). Polarization of superluminescence in an anisotropically amplifying medium. ZhTF P, no. 3, 1978, 153-157. (RZhF, 8/78, 8D1166)
108. Privalov, V.Ye., and S.F. Yudin (0). Dependence of gas laser gain on the geometry of the cross section of a discharge. OiS, v. 45, no. 2, 1978, 340-345.

D. CHEMICAL LASERS



109. Bashkin, A.S., A.F. Konoshenko, A.N. Orayevskiy, V.N. Tomashov, and N.N. Yuryshev (1). Efficient e-beam-pumped chemical HF laser with a high specific energy density. KE, no. 7, 1978, 1608-1610.



110. Bystrova, T.V., and M.N. Safaryan (0). Influence of atomic oxygen on vibrational relaxation in the system $\text{CS}_2 + \text{O}_2$. ZhTF P, no. 16, 1978, 984-987.

3. Photodissociative

111. Danilov, O.B., A.P. Zhevlikov, and I.L. Yachnev (0). Studying the losses in a photodissociation laser using optical inhomogeneities of the active medium. OiS, v. 45, no. 1, 1978, 140-146.

112. Gordon, Ye.B., V.D. Sizov, and S.A. Sotnichenko (67). Chemically-pumped Br_2-CO_2 laser. KE, no. 7, 1978, 1578-1580.

113. Kuznetsova, S.V., and A.I. Maslov (1). New values for rate constants of reactions involving $\text{CF}_3-\text{n-C}_3\text{F}_7$, $\text{i-C}_3\text{F}_7$ radicals. KE, no. 7, 1978, 1587-1591.

4. Transfer

5. Miscellaneous

114. Butkovskaya, N.I., M.N. Larichev, I.O. Leypunskiy, I.I. Morozov, and V.L. Tal'roze (67). Mass spectrometer investigation of the elementary reaction between fluorine atoms and difluorochloromethane. Kinetika i kataliz, no. 4, 1978, 823-829.

115. Golovichev, V.I. (295). Numerical modeling of nonequilibrium processes in turbulent flows of reactive gases and c-w chemical laser systems.
Institut khimicheskoy kinetiki i gorenija SOAN. Dissertation, 1977,
26 p. (KLDV, 1/78, p. 172)

E. COMPONENTS

1. Resonators

116. Berger, N.K., and Yu.N. Luk'yanov (0). Designing an unmatched three-mirror resonator with spherical mirrors. IN: Sb 3, 90-101. (RZhF, 8/78, 8D1116)
117. Beterov, I.M., A.A. Chernenko, and A.V. Shishayev (10). Optical resonator for a pulsed dye laser with powerful nitrogen laser pumping.
PTE, no. 4, 1978, 234-235.
118. Dlugunovich, V.A., and V.N. Snopko (0). Universal unit for output radiation from the resonator of a gas laser. ZhPS, v. 29, no. 1, 1978, 17-20.
119. Gembarzhevskiy, G.V. (133). Optimizing the efficiency of an unstable cylindrical resonator in a flow-through laser. IN: Tr 4, 59-66.
(RZhF, 7/78, 7D1367)
120. Korolev, F.A., V.M. Salimov, and M.V. Tsurikova (0). Synchronization of the linear modes of an argon laser in a three-mirror resonator. OiS, v. 45, no. 1, 1978, 191-193.

121. Mogil'nitskiy, B.S. (163). Multipass absorption cell in a He-Ne laser resonator. IN: Tr 1, 81-90. (RZhF, 8/78, 8D1254)
122. Vertiy, A.A., N.N. Derkach, I.V. Ivanchenko, I.A. Popenko, and V.P. Shestopalov (34). New method for measuring the phase structure of a field in open resonators. IN: Tr 2, 37-40. (RZhRadiot, 8/78, 8Ye148)
123. Yegorov, V.S., V.G. Ilyushin, Yu.N. Kal'chenko, N.V. Pletnev, Yu.V. Senatskiy, G.V. Sklizkov, L.K. Subbotin, and S.I. Fedotov (1). Automatic adjustment of optical elements in a laser system. Fizicheskiy institut AN SSSR. Preprint, no. 135, 1977, 34 p. (RZhF, 7/78, 7D1547)
124. Zeyger, S.G., P.V. Melekhov, and Ye.B. Pelyukhova (0). Stationary regime for a system of a coupled generator and amplifier. OiS, v. 45, no. 2, 1978, 378-386.

2. Pump Sources

125. Dmowski, A., R. Janson, A. Pietrzak, and H. Supronowicz (NS). Power supply for a gas laser. Patent Poland, no. 89584, issued 30 July 1977. (RZhRadiot, 7/78, 7Ye442)
126. Gritsenko, B.P., V.N. Legostayev, A.T. Ovcharov, A.G. Rozanov, V.V. Ivanov, and V.G. Nikiforov (0). Variation of the coating transparency of pulsed lamps. ZhPS, v. 29, no. 2, 1978, 338-341.
127. Konieczka, J., and J. Mizeraczyk (NS). Discharge tube for a metal ion gas laser with controlled input of the metal ions into the area of the active discharge. Patent Poland, no. 89118, issued 30 April 1977. (RZhRadiot, 7/78, 7Ye446)

128. Lykov, S.D., and E.P. Kharitonenko (0). Studying complex control systems by an electrohydrodynamic analogy method. IN: Sb 6, 65-67.
(RZhF, 8/78, 8D1249)
129. Mikhaylov, N.I. (NS). Shaping of current pulses in a gas discharge lamp by means of totally controlled thyristor switches. Bolgarskiy fizicheskiy zhurnal, no. 3, 1977, 335-341. (RZhF, 7/78, 7D1538)
130. Muratov, Ye.A. (98). Effect of ultraviolet radiation on the combustion characteristics of internal gas discharges during their excitation of laser media. NII yadernoy fiziki Moskovskogo GU. Dissertation, 1977, 14 p. (KLDV, 1/78, p. 178)

3. Deflectors

131. Gusak, N.A. (0). Electrooptic deflectors for gradient-type optical beams. IN: Sb 1, 36-53. (RZhRadiot, 8/78, 8Ye145)
132. Mozhayskiy, V.N. (150). Design and study of acoustooptic deflectors of coherent radiation. Dnepropetrovskiy gos. universitet. Dissertation, 1977, 19 p. (KLDV, 1/78, 1437)
133. Nikonov, O.V., A.A. Berezhnoy, Ye.S. Nikanova, and N.B. Sidorenko (7). Electrooptical lead magnoniobate crystal deflector. OMP, no. 7, 1978, 56-60.

4. Diffraction Gratings

134. Eichler, H.J., Ch. Hartig, and J. Knof (NS). Laser-induced diffraction grating in CdS. Physica status solidi, v. A45, no. 2, 1978, 433-438.
(RZhRadiot, 8/78, 8Ye103)

135. Nagulin, Yu.S., and N.K. Pavlycheva (7). Planar transparent diffraction grating in a convergent beam. OMP, no. 7, 1978, 73-74.

5. Beam Splitters

136. Panteleyev, G.V., A.A. Kostryukova, V.I. Yampol'skiy, and V.N. Yegorov (0). Construction of interference beam splitters for wavelengths of 10.6 μ. OiS, v. 45, no. 1, 1978, 172-174.

6. Detectors

137. Bakut, P.A., Yu.V. Sorokin, I.N. Troitskiy, and N.D. Ustinov (0). Analyzing the requirements for photodetectors of ultrashort pulses to assure their discrimination efficiency. IN: Sb 7, 27-31. (RZhF, 8/78, 8D1517)

138. Beregulin, Ye.V., P.M. Valov, V.I. Pogodin, S.M. Ryvkin, D.V. Tarkhin, A.A. Uvarov, and I.D. Yaroshetskiy (4). New photodetector based on interzonal thermal photoconductivity. KE, no. 8, 1978, 1860.

139. Berkovskiy, A.G., V.G. Gusel'nikov, Yu.I. Gubanov, and A.B. Kostin (0). The SNFT-8 photoelectron multiplier with high time resolution. IN: Sb 7, 196-198. (RZhF, 8/78, 8D1513)

140. Drazhev, M., and K. Apostolov (NS). Using an electron photomultiplier as a quantum detector in the red region of the spectrum. Tekhnicheskaya misul, no. 5, 1977(1978), 43-50. (RZhF, 8/78, 8D1497)

141. Fokina, N.N., V.G. Ignat'yev, V.S. Ionova, E.V. Kuvaldin, and G.A. Pyatnitskaya (0). Designing a wide-range pulsed radiation indicator. IN: Sb 7, 103-107. (RZhF, 8/78, 8D1519)

142. Gavanin, V.A., A.V. Naumov, and P.V. Bugrov (0). Small-scale vacuum photoelements with improved time resolution. IN: Sb 7, 183-185. (RZhF, 8/78, 8D1511)
143. Govorun, D.N., I.I. Kondilenko, and P.A. Korotkov (51). Method of photomultiplier recovery for recording weak optical fluxes in a single-electron regime. Otkr izobr, no. 27, 1978, 616534.
144. Hartung, C., and R. Jurgeit (NS). Study of the properties of an opto-thermal detector. KE, no. 8, 1978, 1825-1827.
145. Ignat'yev, V.G., N.I. Gonchukova, and G.F. Trofimov (0). Study of the stability of sensitivity of photodetectors in recording of repetitive radiation pulses. IN: Sb 7, 176-180. (RZhF, 8/78, 8D1512)
146. Kalinin, Yu.A., A.M. Natanzon, M.Ye. Plotkin, and I.L. Safronov (0). Analyzing a detecting converter for pulsed radiation calorimeters. IN: Sb 7, 62-66. (RZhF, 8/78, 8D1530)
147. Perepechay, M.P., V.M. Kuz'michev, and A.V. Zolotaykin (0). Absorption of infrared radiation by platinum microfibers. IN: Sb 7, 58-61. (RZhF, 8/78, 8D1529)
148. Rubtsov, V.A., Ye.P. Yevsyukov, and E.I. Sergeyev (0). Studying the pulse interaction of a radiation thermodetector with a recording instrument. IN: Sb 7, 52-54. (RZhF, 8/78, 8D1525)
149. Voron'ko, O.N., V.K. Grunin, A.V. Mezenov, N.V. Ponomareva, A.I. Stepanov, and Yu.M. Shakunov (0). Study of the interaction of high-power pulsed radiation with thermoelectric detectors. IN: Sb 7, 48-52. (RZhF, 8/78, 8D1528)

150. Yeshmemet'yeva, Ye.V., and O.M. Mikhaylov (0). Determining the linearity of optical characteristics of photoelements in a wide range of change in the illumination on their cathodes. IN: Sb 7, 185-189. (RZhF, 8/78, 8D1510)
151. Zargar'yants, M.N., P.V. Dernovskiy, and Yu.S. Mezin (0). Radiative diodes in the nanosecond range for measuring pulse characteristics of photodetectors. IN: Sb 7, 79-85. (RZhF, 8/78, 8D1547)

7. Modulators

152. Bikeyev, O.N., A.I. Gudzenko, L.N. Deryugin, L.A. Osadchev, V.Ye. Sotin, and N.I. Chernyshev (0). Features of a planar acoustooptical modulator-deflector with a restricted optical beam. OiS, v. 45, no. 1, 1978, 156-158.
153. Boldin, V.P., and A.I. Vesnitskiy (0). Possibility of frequency modulation in a waveguide with moving boundaries. RiE, no. 8, 1978, 1657-1661.
154. Gavrikova, I.G., N.I. Glushchenko, A.L. Rvachev, and Ye.I. Skidan (0). Modulating an optical flux by electroabsorption in ZnSe single crystals. IN: Sb 8, 42-46. (LZhS, 28/78, 97771)
155. Gazso, J., and J. Hajto (NS). Self-controlled laser beam chopping effect in GeSe₂ thick films. Physica status solidi, v. A45, no. 1, 1978, 181-186. (RZhF, 8/78, 8D1238)

156. Gratsianov, K.V., Yu.P. Ivanov, B.N. Kolesnikov, B.G. Malinin, D.I. Perlov, and A.I. Stepanov (7). Method for stabilizing the power of a solid state laser Q-switched by an optico-mechanical shutter. OMP, no. 7, 1978, 9-10.
157. Ivanova, V.M., A.I. Nagayev, and V.N. Parygin (0). SHF modulator of light based on the Ba₂NaNb₅O₁₅ crystal with a developed domain structure. IN: Sb 9, 41-43. (RZhRadiot, 8/78, 8Yel41)
158. Kaczmarek, F., and E. Pawlowska (NS). Mode-locking and extension of laser emission by liquids. FDiR, no.2, 1977, 251-262. (RZhF, 8/78, 8D1263)
159. Lukashev, V.M., and S.K. Zaytseva (299). Using microwave waveguide analysis to calculate the parameters of wideband electrooptic modulators. IAN B, no. 3, 1978, 104-109.
160. Rehak, V., J. Poskocil, and F. Rohlicek (NS). Ruby or neodymium laser [dye-solution passive switch for such a laser]. Author's certificate Czechoslovakia, no. 168073, issued 15 March 1977. (RZhMetrolog, 7/78, 7.32.1104)
161. Yevtyukhov, K.N., and L.N. Kaptsov (0). Modulation of the radiation intensity of two mutually synchronized solid-state lasers. RiE, no.7, 1978, 1552-1554.

F. NONLINEAR OPTICS

1. Frequency Conversion

162. Aleksandrov, K.S., A.N. Vtyurin, and V.F. Shabanov (210). Second optical harmonic generation in incommensurable crystal phases. ZhETF P, v. 28, no. 3, 1978, 153-156.
163. Antipenko, B.M., M.N. Vikhrov, A.A. Mak, V.A. Pis'mennyy, V.N. Polikarpova, and Yu.V. Tomashevich (0). Frequency conversion in an Nd laser by resonance pumping of active media. ZhPS, v. 29, no. 2, 1978, 239-245.
164. Arakelyan, S.M., G.L. Grigoryan, S.Ts. Nersisyan, M.A. Nshanyan, and Yu.S. Chilingaryan (37). Second harmonic generation in liquid crystals; molecule symmetry and macroscopic nonlinearity. ZhETF P, v. 28, no. 4, 1978, 202-206.
165. Arkhipkin, V.G., A.K. Popov, and V.P. Timofeyev (0). Conversion of 1.06 μ radiation to 420 nm in rubidium vapor. ZhTF P, no. 3, 1978, 183-186. (RZhF, 7/78, 7D1329)
166. Batovrin, V.K., and V.K. Novokreshchenov (0). New hysteresis phenomenon in intraresonator second-harmonic generation in lasers. ZhTF P, no. 13, 1978, 808-812.
167. Gaygerov, B.A., and L.P. Yelkina (0). Method for frequency tuning in the resonator of a hydrogen oscillator. Author's certificate USSR, no. 534003, issued 11 November 1976. (RZhRadiot, 7/78, 7Ye305)

168. Gaylis, A.K., V.A. Kolesnikov, and E.A. Silin'sh (0). Nonlinear optical effects of generating higher harmonics of a neodymium laser in organic molecular crystals. IAN Lat, no. 1, 1978, 20-27. (RZhF, 7/78, 7D1332)
169. Kalmykov, A.M., N.Ya. Kotsarenko, and V.V. Kulish (0). Possibility of laser radiation frequency conversion in electron fluxes. ZhTF P, no. 14, 1978, 820-822.
170. Kolesnikov, V.S., and Yu.A. Pirogov (0). Optimum conditions for efficient second harmonic generation in a thin-layer internal resonator. ZhTF P, no. 6, 1978, 321-325. (RZhRadiot, 8/78, 8Ye139)
171. Kowalczyk, L., and J. Kolodziejczak (NS). Optical mixing by mobile carriers in InSb. Acta physica polonica, v. A52, no. 5, 1977, 679-690. (RZhF, 7/78, 7D1326)
172. Krochik, G.M. (94). Parametric resonance interactions of optical waves (frequency conversion of laser radiation). Gor'kovskiy gos. universitet. Dissertation, 1977, 15 p. (KLDV, 1/78, p. 176)
173. Liberto, G.V., and S.Yu. Stefanovich (0). Second harmonic generation in lanthanum-doped lead zirconate-titanate ceramic. IN: Sb 10, 199-207. (RZhF, 8/78, 8D1090)
174. Lugina, A.S., V.N. Belyy, N.I. Insarov, N.N. Uvarova, and A.G. Khatkevich (3). Efficient intracavity second harmonic generation. KE, no. 7, 1978, 1576-1578.

175. Romanov, A.B., and V.I. Tolstikhin (0). Parametric conversion of laser radiation with a frequency reduction in a magnetic semiconductor. ZhTF P, no. 15, 1978, 897-900.
176. Voronin, E.S., A.A. Popesku, V.S. Solomatin, V.V. Shuvalov, and S.A. Pleshakov (2). Recording thermal radiation by detectors with frequency doubling. KE, no. 8, 1978, 1847-1849.
177. Zolot'ko, A.S., A.A. Mayer, and A.P. Sukhorukov (2). Possibility of synchronous nonlinear interaction of x-ray waves in ideal crystals. KE, no. 8, 1978, 1775-1779.
178. Zolotov, Ye.M., V.G. Mikhalevich, V.M. Pelekhatyy, A.M. Prokhorov, V.A. Chernykh, and Ye.A. Shcherbakov (0). Second harmonic generation in diffuse LiNbO₃ waveguides. ZhTF P, no. 4, 1978, 219-222. (RZhF, 8/78, 8D1087)

2. Parametric Processes

179. Babin, A.A., and A.N. Shchelokov (8). Energy characteristics of a parametric generator with synchronized two-stage interaction. IVUZ Radiofiz, no. 7, 1978, 981-984.
180. Fischer, R., and L.W. Wieczorek (NS). Theory of parametric four-photon interaction. Part 6. Effect of phase mistuning and double refraction on the threshold power of double-resonance four-photon oscillators. Annalen der Physik, no. 4, 1977, 309-313. (RZhF, 7/78, 7D1321)
181. Moseyenkov, B.I., and P.A. Maksimyuk (0). Study of parametric resonance in semiconductor crystals illuminated by modified light. IN: Sb 11, 149-160. (RZhF, 8/78, 8D1236)

182. Tsikarishvili, E.G. (0). Theory of parametric excitation of non-potential high-frequency vibrations in a plasma. ZhTF P, no. 6, 1978, 325-328. (RZhRadiot, 8/78, 8Ye132)

3. Stimulated Scattering

a. Raman

183. Avrov, A.I. (161). Theory of stimulated Raman scattering of finite electromagnetic waves in a magnetoactive plasma. IVUZ Radiofiz, no. 7, 1978, 929-937.
184. Chebotayev, V.P. (159). Coherent Raman scattering in diverse optical fields. VMU, no. 4, 1978, 159-164.
185. Groseva, M.G., L.I. Pavlov, K.V. Stamenov, and N.G. Khadzhiyskiy (NS). Tunable Raman frequency generation under transient conditions. Bolgarskiy fizicheskiy zhurnal, no. 3, 1977, 291-299. (RZhF, 8/78, 8D1075)
186. Orlov, V.A., Yu.N. Fomin, S.I. Marennikov, and A.I. Parkhomenko (10). Tunable parametric Raman laser using polaritons in a lithium niobate crystal. KE, no. 8, 1978, 1808-1811.
187. Panarin, A.M., and V.L. Strizhevskiy (51). Anti-Stokes stimulated Raman light scattering by polaritons. KE, no. 8, 1978, 1694-1705.
188. Vokhnik, O.M., I.V. Nikitin, and V.I. Odintsov (0). Study of delays in gain during stimulated Raman scattering with wideband pumping. OiS, v. 45, no. 1, 1978, 88-94.

b. Brillouin

189. Basov, N.G., V.F. Yefimkov, I.G. Zubarev, A.V. Kotov, S.I. Mikhaylov, and M.G. Smirnov (1). Inversion of the wave front in stimulated Brillouin scattering of depolarized pumping. ZhETF P, v. 28, no. 4, 1978, 215-219.
190. Bespalov, V.I., A.A. Betin, and G.A. Pasmanik (8). Reproduction of pumping waves in stimulated scattering radiation. IVUZ Radiofiz, no. 7, 1978, 961-980.

c. Compton

191. Bratman, V.L., N.S. Ginzburg, and M.I. Petelin (426). Energetic possibilities of a relativistic Compton laser. ZhETF P, v. 28, no. 4, 1978, 207-211.

d. Miscellaneous Scattering

192. Averbakh, V.S., A.A. Betin, V.A. Gaponov, A.I. Makarov, G.A. Pasmanik, and V.I. Talanov (426). Stimulated scattering and self-acting effects in gases and their influence on the propagation of optical radiation (Survey). IVUZ Radiofiz, no. 8, 1978, 1077-1106.
193. Babin, A.A., Yu.N. Belyayev, M.M. Sushchik, V.M. Fortus, G.I. Freydman, and A.N. Shchelokov (426). Amplification and lasing processes in stimulated polariton scattering and parametric interaction of traveling and pump-accompanied waves. IVUZ Radiofiz, no. 8, 1978, 1143-1155.
194. Blashchuk, V.N., B.Ya. Zel'dovich, V.N. Krasheninnikov, N.A. Mel'nikov, N.F. Pilipetskiy, V.V. Ragul'skiy, and V.V. Shkunov (17). Stimulated scattering of depolarized radiation. DAN SSSR, v. 241, no. 6, 1978, 1322-1325.

195. Kochemasov, G.G., and V.D. Nikolayev (0). Wave front rotation in the stimulated scattering process at double-frequency pumping. KE, no. 8, 1978, 1837-1838.
196. Kuznetsov, Ye.A., and N.N. Noskov (75). Polarization effects from induced scattering of electromagnetic waves. ZhETF, v. 75, no. 1, 1978, 116-123.
197. Zel'dovich, B.Ya., N.F. Pilipetskiy, V.V. Ragul'skiy, and V.V. Shkunov (1). Wave front rotation using nonlinear optics methods. KE, no. 8, 1978, 1800-1803.
198. Zel'dovich, B.Ya., O.Yu. Nosach, V.I. Popovichev, V.V. Ragul'skiy, and F.S. Fayzullov (1). Inversion of a light wave front during its stimulated scattering. VMU, no. 4, 1978, 137-145.
199. Zel'dovich, B.Ya., and V.V. Shkunov (1). Rotation of an optical wave front during depolarization pumping. ZhETF, v. 74, no. 2, 1978, 428-438.

4. Self-focusing

200. Bonch-Osmolovskiy, M.M., G.M. Zverev, and V.S. Naumov (118). Self-focusing of laser radiation in lithium niobate crystals. IN: Tr 3, 181-184. (RZhF, 7/78, 7D1284)
201. Degtyarev, L.M., and V.V. Krylov (71). The asymptotic of the solution of the light self-focusing problem in a cubic medium. DAN SSSR, v. 24, no. 1, 1978, 64-67.

202. Mastryukov, A.F., and V.S. Synakh (337). Influence of thermal and hydrodynamic effects on propagation of short pulses. KE, no. 8, 1978, 1804-1807.
203. Matveyev, I.N., and S.M. Pshenichnikov (0). Pulsed infrared detectors with optical frequency conversion. IN: Sb 7, 20-27. (RZhF, 8/78, 8D1535)

5. Acoustic Interaction

204. Davidovich, L.A., and Kh. Rikhsitillayev (235). Acoustooptic interaction. IN: Tr 5, 3-7. (RZhF, 8/78, 8D1237)
205. Gordiyenko, V.M., A.B. Reshilov, and V.I. Shmal'gauzen (2). Visualization of optoacoustic interactions. VMU, no. 4, 1978, 59-63.
206. Kasoyev, S.G., and L.M. Lyamshev (21). Sound generation in a fluid by arbitrarily shaped laser pulses. Akusticheskiy zhurnal, no. 4, 1978, 534-539.
207. Kleszelewski, Z. (NS). Using diffraction of laser radiation by ultra- and hypersonic waves to study the acoustic and acoustooptic properties of crystals. Postepy fizyka, no. 2, 1978, 209-223. (RZhRadiot, 8/78, 8Ye312)

6. General Theory

208. Abdumalikov, A.A. (252). Theoretical studies of some nonlinear optical phenomena under resonance conditions. Leningradskiy institut yadernoy fiziki AN SSSR. Dissertation, 1977, 20 p. (KLDV, 1/78, p. 169)
209. Adonts, G.G. (37). Study of nonlinear resonance and polarization phenomena in two- and three-level systems. Yerevanskiy gos. universitet. Dissertation, 1977, 16 p. (KLDV, 1/78, p. 169)

210. Atutov, S.N., S.G. Rautian, G.D. Rodionov, E.G. Saprykin, and A.M. Shalagin (0). Polarization contrasting of nonlinear resonances. ZhTF P, no. 24, 1977, 1335-1338. (RZhF, 7/78, 7D1287)
211. Bonch-Bruyevich, A.M., S.G. Przhibel'skiy, and N.A. Chigir' (7). Amplification of weak light fluxes in a two-level system without population inversion. VMU, no. 4, 1978, 35-44.
212. Gusakov, V.V., and L.I. Kats (0). Interaction of IR radiation and a circularly polarized SHF wave in a magnetized semiconductor medium. IN: Sb 12, 96-102. (RZhRadiot, 8/78, 8Ye9)
213. Lebedev, S.A. (118). Experimental study of the phenomenon of light amplification during reflection from a medium with population inversion. Moskovskiy fiziko-tehnicheskiy institut. Dissertation, 1977, 17 p. (KLDV, 1.78, p. 167)
214. Piekara, A.H. (NS). Nonlinear interaction of picosecond light pulses with crystal lattice vibrations. Acta physica polonica, v. A53, no. 1, 1978, 115-121. (RZhF, 8/78, 8D1235)
215. Rautian, S.G. (75). Study of elastic scattering using nonlinear spectroscopy. KE, no. 8, 1978, 1706-1712.
- G. SPECTROSCOPY OF LASER MATERIALS
216. Ivanitskaya, S.A., and I.I. Dilung (0). Fluorescence of $6\text{-NH}_2\text{-7OH-4CH}_3$ coumarin solutions. ZhPS, v. 29, no. 2, 1978, 261-265.

217. Tolstoy, M.N. (7). Spectral-luminescence properties and structure of laser glass. Gos. opticheskiy institut. Dissertation, 1977, 45 p.
(KLDV, 3/78, 6595)

H. ULTRASHORT PULSE GENERATION

218. Badziak, J. (NS). Forming ultrashort laser pulses by amplification in a two-component disk amplifier. Zeszyty naukowe Politechniki Lodzkiej, no. 271, 1977, 127-135. (RZhF, 8/78, 8D1262)
219. Danelyus, R., V. Kabelka, A. Piskarskas, and V. Smil'gyavichus (0). Single pulse, picosecond tunable parametric light generator with energy efficiency ≥ 50%. ZhTF P, no. 13, 1978, 765-768.

J. CRYSTAL GROWING

K. THEORETICAL ASPECTS OF ADVANCED LASERS

220. Buymistrov, V.M., and Yu.A. Krotov (118). Possibility of resonance conversion of light to x-radiation. IN: Tr 3, 155-159. (RZhF, 8/78, 8D1095)
221. Gaponov, V.A., G.A. Pasmanik, and A.A. Shilov (426). Feasibility of fast cooling of multi-charged laser plasma and its use as an active medium for generating short-wavelength radiation. KE, no. 8, 1978, 1780-1782.
222. Kolomenskiy, A.A., and A.N. Lebedev (1). Stimulated undulatory radiation of relativistic electrons and physical processes in an "electron laser". KE, no. 7, 1978, 1543-1552.

L. GENERAL LASER THEORY

223. Avetisyan, G.K., A.K. Avetisyan, and R.G. Petrosyan (37). Stimulated interaction of charged particles with electromagnetic radiation in a medium with unstable properties. ZhETF, v. 75, no. 2, 1978, 382-389.
224. Badziak, J. (NS). Quasistationary two-photon amplification of optical pulses. BWAT, no. 2, 1978, 125-132. (RZhRadiot, 8/78, 8Yel5)
225. Badziak, J. (NS). Low-noise two-component disk amplifier. Zeszyty naukowe Politechniki Łódzkiej, no. 271, 1977, 115-125 (RZhF, 8/78, 8D1256)
226. Bogdanov, Ye.I. (214). Using the boson concept of an angular moment for analyzing the processes of optical superradiance. IN: Tr 6, 116-135. (LZhS, 26/78, 91174)
227. Golovichev, V.I., and M.D. Taran (0). Possible alternatives for describing the lasing regime in c-w laser systems. IN: Sb 4, 4-7. (LZhS, 26/78, 92493)
228. Gorshkov, V.A., and R.I. Sokolovskiy (152). Theory of superluminescent lasers. IVUZ Fiz, no. 8, 1978, 118-125.
229. Ivanov, Yu.S. (214). Numerical analysis of problems of optical and acoustic superradiance. IN: Tr 6, 48-70. (LZhS, 26/78, 91191)
230. Komarov, K.P. (0). Phase interactions of modes in a solid-state laser with a moving active medium. IN: Sb 3, 108-113. (RZhF, 8/78, 8D1100)

231. Martynov, N.N., and S.N. Stolyarov (118). Radiation dynamics of solid-state lasers with modulated pumping. IN: Tr 3, 169-172. (RZhF, 7/78, 7D1358)
232. Mogil'nitskiy, B.S., and I.P. Tokareva (163). Stability of single-frequency lasing in a competitive mode regime. IN: Tr 1, 74-81. (RZhF, 8/78, 8D1101)
233. Pekar, S.I., I.A. Izmaylov, V.A. Kochelap, and Yu.A. Kukibnyy (6). Theory of a photorecombination laser thermally initiated behind a shock front. DAN SSSR, v. 241, no. 1, 1978, 80-83.
234. Yezhkov, A.N. (118). Transient processes in solid-state lasers in a mode-locking regime. IN: Tr 3, 164-168. (RZhRadiot, 7/78, 7Ye247)
235. Zakharov, S.M., and E.A. Manykin (0). Spatial synchronism of photon echo for exciting pulses with a spherical wave front. OiS, v. 45, no. 2, 1978, 390-391.
236. Zaporozhchenko, R.G. (3). Study of stimulated mode locking in pulsed lasers. Insittut fiziki AN BSSR. Dissertation, 1977, 15 p. (KLDV, 1/78, p. 173)
237. Zinov'yev, A.V., and V.B. Lugovskoy (202). Nonequilibrium superheating of electron gas by laser radiation. ZhTF, no. 8, 1978, 1589-1591.

II. LASER APPLICATIONS

A. BIOLOGICAL EFFECTS

238. Berezin, Yu.D., Yu.P. Gudakovskiy, K.G. Komyagin, V.R. Muratov, V.G. Nikonov, B.V. Ovchinnikov, and V.A. Rusov (0). Dependence of maximum permissible levels of pulsed radiation on the duration of the pulse. IN: Sb 7, 37-41. (RZhF, 8/78, 8D1383)
239. Dement'yeva, V.A. (455). Thermomechanical character of the action of laser radiation on biostructures. NII po biologicheskim ispytaniyam khimicheskikh soyedeniy. Dissertation, 1977, 19 p. (KLDV, 1/78, p. 206)
240. Klyavin, Yu.A. (218). Action of infrared laser radiation on the mucous membrane of the stomach and experimental justification for its use for gastric bleeding. Vtoroy Moskovskiy gos meditsinskiy institut. Dissertation, 1977, 21 p. (KLDV, 1/78, 1890)
241. Mel'dekhanov, T.T. (319). Effect of monochromatic red laser light on vascular tissue permeability in the norm and during inflammation. Alma-Atinskiy gos meditsinskiy institut. Dissertation, 1977, 16 p. (KLDV, 1/78, 1935)

B. COMMUNICATIONS SYSTEMS

242. Anikin, V.I., A.P. Gorobets, and A.N. Polovinkin (0). Characteristics of plane optical waveguides prepared by a solid state diffusion method. OiS, v. 45, no. 1, 1978, 187-190.

243. Bayda, L.I., A.I. Valyayev, and Yu.V. Yurkov (110). Variations in constructing information processing channels for acoustic holographic systems. IN: Tr 7, 70-75. (LZhS, 28/78, 98609)
244. Borisov, E.V. (0). Noise rejection of digital optical communications lines during reception of coded messages as a whole. IVUZ Radioelektr, no. 7, 1978, 106-108.
245. Bykovskiy, Yu.A., V.L. Smirnov, and A.V. Shmal'ko (0). Modulation of radiation in thin-film optical waveguides by means of stationary phase lattice structures. ZhTF P, no. 23, 1977, 1254-1257. (RZhRadiot, 7/78, 7Ye366)
246. Dedlovskiy, M.M., Ye.L. Yefremov, and I.P. Korshunov (15). Study of the possibility of transmitting an optical image over a waveguide line. Institut radiotekhniki i elektroniki AN SSSR. Preprint, no. 11, 1977, 22 p. (RZhRadiot, 7/78, 7Ye399)
247. Dubinin, A.A., and M.V. Grinis (135). Noise rejection in various devices for synchronizing boosters in an optical communications line. IN: Tr 8, 82-88. (RZhRadiot, 7/78, 7Ye393)
248. Ferdinandov, E.S., and V.I. Tsanev (NS). Variation of the angle-distance sensitivity of a receiving optical antenna, with the dimensions of the inlet and photodetecting apertures. Bolgarskiy fizicheskiy zhurnal, no. 4, 1977, 435-447.
249. Ferdinandov, E.S., and I.Ts. Ivanov (NS). Optical antennas focused at finite distances. Bolgarskiy fizicheskiy zhurnal, no. 4, 1977, 447-458. (RZhRadiot, 8/78, 8Ye199)

250. Filimonov, V.P., A.B. Tsibulya, and V.G. Chertov (0). Energy loss from optical correction of temporal distortions in fiber lines. OiS, v. 45, no. 1, 1978, 114-117.
251. Garsia, M.A. (0). Optical directional coupler based on gyrotropic and anisotropic plane lightguides. ZhTF P, no. 5, 1978, 269-274.
(RZhRadiot, 8/78, 8Ye181)
252. Garsia, M.A., S.A. Mironov, A.N. Ageyev, T.A. Shaplygina, B.P. Trubitsyn, and T.V. Loding (0). Diffusion of lithium titanate and niobate and characteristics of gradient lightguides. ZhTF P, no. 10, 1978, 573-578. (RZhRadiot, 8/78, 8Ye169)
253. Holoubek, J. (NS). Analysis of backscattered light from step-index optical fibers: refractive index and radius ratio determination. Czechoslovak Journal of Physics, v. B28, no. 2, 1978, 125-133.
(RZhRadiot, 7/78, 7Ye333)
254. Iogansen, L.V., and V.V. Malov (451). Theory of prism storage with an anisotropic optical waveguide. IVUZ Radiofiz, no. 7, 1978, 1060-1062.
255. Iogansen, L.V., and V.V. Malov (0). Amplifier using the resonance tunnel coupling of passive and active optical waveguides. ZhTF P, no. 13, 1978, 792-794.
256. Kruehler, W.W. (NS). Properties of neodymium lasers for optical communications. Nachrichtentechnik-Elektronik, no. 1, 1978, 5-9.
(RZhRadiot, 8/78, 8Ye102)

257. Lavrinovich, B.M. (0). Estimation of the transmission factor of fiber lightguides. OiS, v. 45, no. 1, 1978, 195-196.
258. Lavrukovich, V.I., and A.V. Sidorenko (87). Experimental study of lightguides used for transmitting SHF-modulated laser radiation. IN: Tr 9, 60-62. (RZhF, 7/78, 7D1546)
259. Shelkov, N.V., and S.D. Yakubovich (141). Amplification of a narrowband signal in an active waveguide. KE, no. 8, 1978, 1841-1843.
260. Yeskin, N.I., and G.R. Lokshin (118). Optimum matching of a regenerative laser amplifier with a scattered field of coherent radiation. IN: Tr 3, 217-226. (RZhRadiot, 7/78, 7Ye553)
261. Zaytsev, S.V., A.S. Kuzali, and A.V. Chekan (0). Experimental study of phase distribution along the radiating aperture of a thin-film waveguide. OiS, v. 45, no. 1, 1978, 182-186.

C. BEAM PROPAGATION

1. In the Atmosphere

262. Abramochkin, A.I., P.M. Nolle, and A.A. Tikhomirov (0). Device for measuring sky spectral brightness. IN: Sb 13, 94.
263. Adamov, T.A., V.A. Zhokhov, and S.T. Chesnokova (133). Program for calculating the power of optical radiation scattered by a monodisperse aerosol. IN: Tr 10, 20-60. (LZhS, 5/78, 15676)

264. Akul'shina, L.G., S.V. Zakharchenko, S.D. Pinchuk, and A.M. Skripkin (220). Investigation of the scattered radiation intensity in dispersing a mist. IN: Tr 11, 99-102.
265. Akul'shina, L.G., and A.M. Skripkin (220). Possibility of determining the water content of clouds and mists from attenuation of IR radiation. IN: Tr 11, 141-145.
266. Alekseyev, I.M., N.Ye. Kamenogradskiy, and L.P. Semenov (220). Effect of the microstructure of a cloud medium on the variation in its transparency during nonstationary dispersal. IN: Tr 11, 34-40.
267. Almayev, R.Kh., A.F. Nerushev, and L.P. Semenov (220). Fluctuations of the parameters of a dispersed cloud medium in the presence of a random wind field. IN: Tr 11, 41-52.
268. Almayev, R.Kh. (220). Propagation of partially coherent light beams in the dispersal zone of a cloud medium. IN: Tr 11, 58-66.
269. Almayev, R.Kh., and L.P. Semenov (220). Change in radiation beam intensity in a randomly inhomogeneous dispersed medium. IN: Tr 11, 146-147.
270. Banakh, V.A., and V.L. Mironov (78). The effect of aperture diffractional size and of the turbulence spectrum on laser radiation intensity fluctuations. KE, no. 7, 1978, 1535-1542.

271. Bayev, V.M., T.P. Belikova, M.B. Ippolitov, E.A. Sviridenkov, and A.F. Suchkov (1). Absorption spectrum of the atmosphere in the 583-605 nm range, obtained by intraresonator laser spectrometry. Fizicheskiy institut AN SSSR. Preprint, no. 31, 1978, 30-36. (RZhGeofiz, 8/78, 8B85)
272. Bayev, V.M., T.P. Belikova, M.B. Ippolitov, E.A. Sviridenkov, and A.F. Suchkov (0). Absorption spectrum of the atmosphere in the 583-605 nm range, obtained by intraresonator laser spectrometry. OIS, v. 45, no. 1, 1978, 58-63.
273. Belen'kiy, M.S. (132). Laser methods for determining the parameters of the C_n^2 [constant] in a turbulent atmosphere. Tomskiy gos universitet. Dissertation, 1977, 22 p. (KLDV, 3/78, 6632)
274. Bel'ts, V.A., O.A. Volkovitskiy, A.F. Nerushev, and V.P. Nikolayev (220). Investigation of CO_2 laser beam refraction in a moving cloud medium. IN: Tr 11, 67-77.
275. Bel'ts, V.A., and V.P. Nikolayev (220). Experimental investigation of self-focusing during passage of a tubular CO_2 laser beam through a cloud medium. IN: Tr 11, 84-87.
276. Bisyarin, V.P., and V.N. Pozhibayev (0). Radiation intensity fluctuations at 0.63μ during propagation in a fine droplet water aerosol. RIE, no. 7, 1978, 1520-1522.
277. Drazhev, M.N., and K.B. Apostolov (NS). Determining the basic parameters of pulse receivers for optical ranging. Bolgarskiy fizicheskiy zhurnal, no. 5, 1977, 537-548. (RZhF, 8/78, 8D1500)

278. Drofa, A.S. (220). Investigation of the displacement spectra of light-beam centers of gravity in a turbulent atmosphere. IVUZ Radiofiz., no. 8, 1978, 1202-1209.
279. Drofa, A.S., and L.I. Yakushkina (220). Space-time characteristics of light beam displacement in a turbulent atmosphere. IN: Tr 12, 141-150.
280. Golubitskiy, B.M., Yu.P. Dyabin, S.O. Mirumyants, A.I. Sitnikov, and M.V. Tantashhev (0). Some characteristics of aerosol profiles of the atmosphere. IN: Sb 13, 38-42.
281. Grigor'yev, V.M., and B.I. Metlitskiy (160). Effect of rescattered radiation on the range of visibility in an inhomogeneous atmosphere. IN: Tr 13, 3-13.
282. Grigor'yev, V.M. (160). Time structure of an optical pulse reflected by an inhomogeneous atmosphere. IN: Tr 13, 23-36.
283. Grigor'yev, V.M. (160). Signal/noise ratio in a laser cloud altimeter. IN: Tr 13, 37-47.
284. Grigor'yev, V.M. (160). Garnet laser ceilometer. IN: Tr 13, 48-56.
285. Grigor'yev, V.M. (160). Characteristics of a laser signal reflected by the atmosphere in the near field. IN: Tr 13, 57-66.
286. Kogan, M.N., and A.N. Kucherov (133). Self-focusing of a Gaussian beam in a supersonic gas flow. DAN SSSR, v. 241, no. 1, 1978, 48-51.

287. Kolomyiets, S.M. (220). Lens properties of a fog dispersal zone by a CO₂ laser. IN: Tr 11, 88-93.
288. Kondrashov, N.G., and A.P. Prishivalko (220). Temperature distribution within a droplet and its evaporation during inhomogeneous heat release. IN: Tr 11, 12-22.
289. Korshunov, V.A., and N.P. Romanov (220). Dual-wave laser probing of the cloud ceiling. IN: Tr 12, 107-113.
290. Kovalev, V.A. (0). Some problems on measuring the altitude of clouds at a diffuse ceiling. IN: Sb 13, 31-35.
291. Kruchenitskiy, G.M., and V.Ye. Rokotyan (0). Spatial correlation of an electromagnetic field in a medium with discrete fixed scatterers. IN: Sb 13, 70-71.
292. Lukin, V.P., V.L. Mironov, V.V. Pokasov, and V.M. Sazanovich (0). Phase method for measuring the internal magnitude of atmospheric turbulence. IN: Sb 13, 71-72.
293. Metlitskiy, B.I. (160). Possibility of using the multiple scattering effect to measure the altitude of the cloud ceiling. IN: Tr 13, 14-22.
294. Metlitskiy, B.I. (160). Optimizing automatic laser cloud-range meters. IN: Tr 13, 67-87.
295. Mishareva, N.I. (0). Experimental investigation of the influence of a turbulent medium on optical detector characteristics. IN: Sb 14, 32-35.

296. Odishariya, M.A., D.D. Kirkitadze, and S.K. Leshchenko (62).

Attenuation of laser radiation intensity by artificial fog.

IN: Tr 14, 35-40.

297. Pavlova, L.N. (220). Allowing for the aureole component of the scattering index in measuring the transparency of crystalline fogs.

IN: Tr 11, 122-127.

298. Petrushin, A.G. (220). Location of extrema on the attenuation curve for circular cylinders. IN: Tr 11, 116-121.

299. Prishivalko, A.P. (220). Influence of the relative humidity of air on light-scattering matrix elements by systems of homogeneous and inhomogeneous atmospheric aerosol particles. IN: Tr 11, 128-140.

300. Romanov, N.P., and V.S. Shuklin (220). Photoluminescent characteristics of water in atmospheric precipitation. IN: Tr 12, 100-106.

301. Semenov, L.P. (220). Evaporation of a water droplet in a radiation field. IN: Tr 11, 3-11.

302. Shuleykin, V.N. (0). Correlation probing of cloud formations.

IN: Sb 13, 17.

303. Svirkunov, P.N. (220). Dynamics of the refraction properties of a dispersed zone. IN: Tr 11, 53-57.

304. Svirkunov, P.N. (220). Influence of a thermal aureole on particle scattering properties. IN: Tr 11, 110-115.

305. Ushakov, G.V. (0). Device for nonlinear conversion of a signal reflected by the atmosphere. IN: Sb 13, 90-91.
306. Vaulin, P.P., Yu.A. Ivakin, and I.Ya. Shapiro (0). Device for measuring the horizontal transparency of the atmosphere and the C_n^{-2} structural constant. IN: Sb 13, 93.
307. Vaulin, P.P., R.Sh. Tsvyk, and I.Ya. Shapiro (0). Evaluating the accuracy of a device for measuring the transparency and turbulence of the atmosphere over boundary layer paths. IN: Sb 13, 93-94.
308. Volkovitskiy, O.A. (220). Approximate analytical description of the effect of CO_2 laser radiation on a cloud droplet medium. IN: Tr 11, 23-33.
309. Volkovitskiy, O.A., N.K. Didenko, and S.D. Pinchuk (220). Occurrence of optical inhomogeneities during dispersal of a turbulent cloud medium. IN: Tr 11, 78-83.
310. Volkovitskiy, O.A., N.K. Didenko, and S.D. Pinchuk (220). Experimental investigation of the convection induced by a CO_2 laser beam in a fog. IN: Tr 11, 94-98.
311. Zakharchenko, S.V., S.D. Pinchuk, and A.M. Skripkin (220). Interaction of laser radiation with a solid aerosol. IN: Tr 11, 103-109.
312. Zaytseva, N.A., and V.I. Shlyakhov (0). Meteorological lidar. Section in book: Aerologiya (Aerology). Leningrad, Gidrometeoizdat, 1978, 262-268.

313. Zuyev, V.Ye., G.M. Krekov, M.M. Krekova, E.V. Makiyenko, and I.E. Naats (0). Theory and numerical experiment on remote probing of the microstructure of a cloud aerosol. IN: Sb 13, 6-15.

2. In Liquids

314. Botygina, N.N., V.I. Bukatyy, and M.Ye. Levitskiy (78). Effect of thermal defocusing on the transparency measurement of water in a laser radiation field. IVUZ Fiz, no. 8, 1978, 139-141.
315. Demidov, A.A., D.N. Klyshko, and V.V. Fadeev (2). Echo signal amplitude in remote laser sounding of natural water bodies. VMU, no. 4, 1978, 64-70.
316. Golubnichiy, P.I., P.I. Dyadyushkin, G.S. Kalyuzhnny, and V.G. Kudlenko (0). Collapse of micro-objects initiated by a laser pulse in water at reduced pressure. ZhPMTF, no. 4, 1978, 64-66.
317. Korableva, Ye.Yu., and F.I. Panachev (2). Apparatus to measure light scattering and depolarization by a fluid. PTE, no. 4, 1978, 223-225.

3. Theory

318. Karamein, Yu.N., A.P. Sukhorukov, A.K. Sukhorukova, and P.I. Chernega (0). Studying the propagation of wave beams by similarity methods. IN: Sb 3, 3-6. (RZhF, 7/78, 7D1141)
319. Martynov, N.N., and S.N. Stolyarov (0). Theory of wave propagation in periodic structures. KE, no. 8, 1978, 1853-1855.

320. Ponomarev, Yu.N. (132). Study of the nonlinear interaction of pulsed ruby laser radiation with H₂O and I₂ vapors. Tomskiy gos universitet. Dissertation, 1977, 15 p. (KLDV, 1/78, p. 179)
321. Zakharov, M.I., and V.D. Prilepskikh (0). Effect of defocusing of a telescope on the shaping and divergence of a laser beam. Part 1. Theory. IN: Sb 3, 32-39. (RZhRadiot, 7/78, 7Ye15)
322. Zakharov, M.I., and V.D. Prilepskikh (0). Effect of defocusing of a telescope on the shaping and divergence of a laser beam. IN: Sb 3, 82-89. (RZhF, 7/78, 7D1518)

D. COMPUTER TECHNOLOGY

323. Balbashov, A.M., N.N. Fadeev, A.Ya. Chervonenkis, and M.L. Shupegin (0). Thermomagnetic recording in a surface layer of orthoferrite. ZhTF P, no. 7, 1978, 419-421.
324. Barkan, I.B., S.I. Marennikov, and M.V. Entin (0). Dynamic optical storage in LiNbO₃ crystals. Physica status solidi, v. A45, no. 1, K17-K22. (RZhRadiot, 7/78, 7Ye802)
325. Barkan, I.B., and S.I. Marennikov (0). Lithium niobate segnetoelectric: a high-speed and reversible element for a holographic memory. IN: Sb 9, 27-30. (RZhRadiot, 8/78, 8Ye358)
326. Bogdanov, V.I., Yu.L. Korchenov, and I.F. Strukov (0). Possibility of broadening the dynamic range in multielement holographic systems with passive probes. IN: Sb 15, 124-132. (RZhRadiot, 8/78, 8Ye361)

327. Gibin, I.S., M.A. Gofman, S.F. Kibirev, Ye.F. Pen, and P.Ye. Tverdokhleb (0). Holographic memory. IN: Sb 16, 101-105. (RZhF, 8/78, 8D1346)
328. Grenishin, S.G., E.A. Yegorov, M.M. Yermolayev, and Yu.A. Cherkasov (0). High-speed coherent optical processing of images by photographic and photothermoplastic Fourier filters. IN: Sb 16, 106-111. (RZhF, 8/78, 8D1334)
329. Gurevich, S.B., R. Buergo Pruneda, and D.F. Chernykh (4). Information density in a three-dimensional image of a three-dimensional object. Fiziko-tehnicheskiy institut AN SSSR. Preprint, no. 557, 1977, 10 p. (RZhF, 8/78, 8D1342)
330. Ivakin, Ye.V., I.P. Petrovich, and A.S. Rubanov (0). Dynamic holography and some problems of information processing in real time. IN: Sb 1, 124-138. (RZhF, 7/78, 7D1612)
331. Kompanets, I.N., and A.G. Sobolev (1). Effect of a low-amplitude AC electric field on PLZT ceramics with "memory". KE, no. 7, 1978, 1530-1534.
332. Kotlyar, P.Ye., Ye.S. Nezhevenko, and V.I. Fel'dbush (0). Image processing in optical systems with feedback. IN: Sb 16, 112-116. (RZhF, 8/78, 8D1590)
333. Kovalev, A.A., L.G. Nekrasov, Yu.V. Razvin, V.A. Grozhik, and S.V. Serak (0). Optical recording of information in liquid crystal media. IN: Sb 1, 21-35. (RZhF, 7/78, 7D1613)

334. Kozenkov, V.M., V.V. Belov, Yu.V. Shulev, and V.A. Barachevskiy (0). Organic photosensitive media for entering information into an optical memory. IN: Sb 17, 115-120. (RZhF, 8/78, 8D1327)
335. Merzlyakov, N.S., and L.P. Yaroslavskiy (0). Three-dimensional data imaging by means of digital holography. IN: Sb 18, 121-148. (RZhF, 8/78, 8D1339)
336. Pavlov, A.Yu. (0). Thermomagnetic analog recording. TKiT, no. 7, 1978, 39-45.
337. Pilipovich, V.A., V.P. Kustov, and V.F. Yarmolitskiy (0). Holographic recording of information by a controlled liquid crystal transparency. IN: Sb 1, 3-20. (RZhF, 7/78, 7D1614)

E. HOLOGRAPHY

338. Adzhalov, V.I. (118). Optimizing the recording process of holographic filters for coherent optical image correction. IN: Tr 3, 21-26. (RZhRadiot, 7/78, 7Ye770)
339. Akayev, A., S.A. Mayorov, L.V. Naydenova, and G.V. Orlovskiy (30). Problems of synthesizing holograms of three-dimensional objects for their image display. IN: Tr 15, 33-42. (LZhS, 1/78, 412)
340. Avrorin, A.V., B.A. Breytman, Yu.K. Volkov, V.M. Gruznov, Ye.A. Kopylov, I.I. Korshever, V.V. Kuznetsov, G.N. Kuznetsov, and I.G. Remel' (0). System for digital reconstruction of holographic images in the real time of the experiment. Avtometriya, no. 4, 1978, 29-36.

341. Barachevskiy, V.A. (0). Advances in designing nonsilver and unconventional light-sensitive recording media for holography. IN: Sb 17, 5-31. (RZhF, 8/78, 8D1322)
342. Berbekar, Gy. (NS). Synthesis of hologram apertures by changes in wavelength. Kep-es hangtechnika, no. 5, 1977, 151-158. (RZhRadiot, 7/78, 7Ye761)
343. Bogomolov, A.S., N.G. Vlasov, and A.Ye. Shtan'ko (199). Contour study of diffusely reflecting objects using open-aperture speckle-topography. ZhTF, no. 8, 1978, 1696-1699.
344. Brekhovskikh, G.L., A.S. Kudryavtseva, and A.I. Sokolovskaya (1). Wave front reconstruction of light beams under stimulated Raman scattering. KE, no. 8, 1978, 1812-1815.
345. Chadyuk, V.A. (106). Holographic method for matching coherent waves. IN: Tr 16, 68-70. (RZhRadiot, 8/78, 8Ye356)
346. Davydov, A.M., and Ye.A. Podpalyy (308). Effect of the nonlinearity of recording on the quality of the reconstructed holographic information. IN: Tr 17, 24-29. (RZhRadiot, 8/78, 8Ye353)
347. Denisyuk, Yu.N. (0). Artistic holography with recording in three-dimensional media using Lippman photoplates. ZhTF, no. 8, 1978, 1683-1688.
348. Dimov, F.I., M.G. Kobzarenko, G.G. Kopachinskiy, V.L. Meshkoy, L.M. Panasyuk, and V.R. Staudzh (0). Hologram recording on a photothermoplastic carrier. IN: Sb 17, 81-85. (RZhF, 8/78, 8D1326)

349. Gurevich, S.B., R. Buergo Pruneda, R.Oms, and D.F. Chernykh (4).
Transmission by a holographic system, of information on a third
measurement. Fiziko-tehnicheskiy institut AN SSSR. Preprint, no. 555,
1977, 14 p. (RZhF, 7/78, 7D1596)
350. Ivakin, Ye.V., L.V. Il'yushenko, I.P. Petrovich, and A.S. Rubanov (3).
Method for recording and calculating nonstationary holograms.
Otkr izobr, no. 25, 1978, 397090.
351. Ivakin, Ye.V., I.P. Petrovich, and A.S. Rubanov (3). Method for
recording holograms. Otkr izobr, no. 25, 1978, 410687.
352. Ivanov, V.S., and Yu.F. Romanov (30). Diffraction of plane waves by an
elementary three-dimensional phase-type hologram and the Mathieu
equation. IN: Tr 15, 28-33. (LZhS, 1/78, 477)
353. Klimenko, G.K., G.N. Kolobrodov, V.G. Komar, S.V. Marsov, and S.M.
Papoyan (231). Holographic recording of motion picture sound.
TKiT, no. 8, 1978, 56-62.
354. Kukarov, G.V., I.I. Mokhun', and V.I. Protasevich (0). Methods for
determining the spatial frequency plane to obtain hologram-filters.
PTE, no. 4, 1978, 221-223.
355. Kuz'michev, A.A., B.A. Budkevich, A.M. Polikanin, V.V. Sviridov, and
V.A. Pilipovich (0). Photochromic AgHal-CuHal films and recording
holograms on them. ZhTF P, no. 16, 1978, 950-952.

356. Lazarev, L.P., V.B. Nemtinov, O.V. Rozhkov, L.N. Timashova, and V.S. Shchetinkin (24). Reproduction of phase-optical recording. IN: Tr 18, 47-56. (RZhF, 7/78, 7D1594)
357. Mangasaryan, G.R., R.A. Sarkisyan, B.Ye. Khaykin, and V.S. Khitrova (446,264). Using thick-layered holograms for information processing of astronegatives. KE, no. 7, 1978, 1513-1517.
358. Markov, V.B., M.S. Soskin, A.I. Khizhnyak, and V.F. Shishkov (0). Conversion of coherent beam structure by volume phase holograms in LiNbO₃. ZhTF P, no. 13, 1978, 757-761.
359. Mikaelyan, S.E., R.S. Khalatyan, and S.G. Shekhyan (0). Study of various factors affecting the quality of an image in integral holography. IN: Sb 19, 53-58. (RZhF, 7/78, 7D1603)
360. Mikaelyan, S.E., A.P. Nashalyan, and S.G. Shekhyan (0). Study of the spatial coherence of neodymium lasers [for holography]. IN: Sb 19, 59-64. (RZhF, 7/78, 7D1606)
361. Mikeradze, G.Sh., A.A. Doroshkin, I.I. Klimov, I.N. Kompanets, A.I. Mazur, and P.N. Semochkin (1). Recording holograms using a liquid crystal-controlled transparency having a capacity of 128x128 elements. KE, no. 7, 1978, 1471-1475.
362. Miler, M., and B. Havelka (NS). Identity of a field diffracted by a transparent object and reconstructed from its hologram. Acta technika CSAV, no. 6, 1977, 681-689. (RZhF, 7/78, 7D1592)

363. Miler, M. (NS). Off-axis paraxial interpretation of holography.
Optica applicata [Poland], no. 2, 1977, 41-45. (RZhF, 7/78, 7D1593)
364. Miridonov, S.V., M.P. Petrov, and S.I. Stepanov (O). Light diffraction by three-dimensional holograms in optically active photorefractive crystals. ZhTF P, no. 16, 1978, 976-980.
365. Mumladze, V.V., A.A. Mikaberidze, N.V. Tsotskhalishvili, Z.V. Vardosanidze, and E.B. Tekayev (O). Holographic recording in dyed hydrosolidate single crystals. AN GruzSSR. Soobshcheniye, v. 88, no. 2, 1977, 333-336. (RZhF, 7/78, 7D1611)
366. Nasalski, W. (NS). Resolving power of an ultrasonic holography system with a liquid acoustooptic converter. Archiwum akustyki, no. 4, 1977, 375-387. (RZhRadiot, 7/78, 7Ye764)
367. Serov, O.B., A.M. Smolovich, and G.A. Sobolev (O). Thin holograms recorded in opposed beams. ZhTF P, no. 4, 1978, 231-235. (RZhF, 7/78, 7D1600)
368. Smolovich, A.M. (O). Vector equations for light diffraction by a three-dimensional hologram in Kogel'nik's approach to the theory of associated waves. ZhTF P, no. 23, 1977, 1279-1283. (RZhF, 7/78, 7D1586)
369. Strigalyev, V.Ye., and Yu.P. Udoev (O). Diffraction efficiency of total internal reflection holographic gratings. ZhTF P, no. 16, 1978, 963-965.

370. Utyamyshev, I.R. (118). Holographic synthesis of three-dimensional x-ray images. IN: Tr 3, 27-32. (RZhRadiot, 7/78, 7Ye786)
371. Vagin, L.N., A.M. Filatov, S.P. Vorob'yev, and V.I. Yegorov (7). The "Migol-1" automated device for holographic miniaturization of documents. OMP, no. 8, 1978, 32-36.
372. Vanin, V.A. (0). Copying holograms. KE, no. 7, 1978, 1413-1428.
373. Vanin, V.A. (0). Producing reflecting holograms by interferometric copying of transmission-type holograms. KE, no. 7, 1978, 1499-1506.
374. Vorzobova, N.D., and D.I. Stasel'ko (0). Diffraction efficiency of a three-dimensional hologram recorded under brief exposure. OiS, v. 45, no. 1, 1978, 165-171.
375. Yaroslavskiy, L.P. (0). Digital holography. IN: Sb 16, 132-137. (RZhRadiot, 8/78, 8Ye347)
376. Yerokhovets, V.K. (0). Magnification during reconstruction of two-dimensional pages of information from microholograms. IAN B, no. 1, 1978, 88-95. (RZhF, 8/78, 8D1345)
377. Zhavoronok, I.V., and G.S. Kutayeva (254). Using the Jones method to calculate the band patterns in holographic photoelasticity. IN: Tr 19, 15-22. (LZhS, 8/78, 26911)
378. Zubov, V.A., and T.I. Kuznetsova (1). System for recording holographic information by photoelectric detectors with a large recording surface. Fizicheskiy institut AN SSSR. Preprint, no. 80, 1977, 24 p. (RZhF, 8/78, 8D1319)

F. LASER-INDUCED CHEMICAL REACTIONS

379. Achasov, O.V., R.I. Soloukhin, and N.A. Fomin (0). Resonance (10.6 μ)
absorption in propane heated in a shock wave. IN: Sb 5, 87-89.
(RZhF, 7/78, 7D1472)
380. Aleksandrov, Ye.I., and A.G. Voznyuk (0). Ignition of lead azide by
laser radiation. FGIV, no. 4, 1978, 86-91.
381. Ambartsumyan, R.V., I.G. Zubarev, A.A. Iogansen, and A.A. Kotov (1,72).
Kinetic studies of vibrational excitation of UF₆ molecules using IR-UV
resonance. KE, no. 7, 1978, 1593-1595.
382. Ambartsumyan, R.V., B.I. Vasil'yev, A.Z. Grasyuk, A.P. Dyad'kin, V.S.
Letokhov, and N.P. Furzikov (1,72). Isotopically-selective dissociation
of CCl₄ by high-power NH₃ laser radiation. KE, no. 8, 1978, 1791-1795.
383. Ambartsumyan, R.V., G.N. Makarov, and A.A. Puretskiy (72). Experimental
determination of the fraction of trapped particles and the excitation
level in multiphoton excitation of molecules by IR laser radiation.
ZhETF P, v. 28, no. 4, 1978, 246-251.
384. Artamonova, N.D., and V.T. Platonenko (2). Kinetics of collisionless
photodissociation of polyatomic molecules in an IR radiation field.
VMU, no. 4, 1978, 15-24.
385. Arushanov, S.Z., A.S. Bebchuk, V.N. Kosolobov, and V.V. Lomonosov (174).
Laser breakdown of aqueous electrolyte solutions. DAN SSSR, v. 241,
no. 6, 1978, 1319-1321.

386. Askar'yan, G.A. (0). Selective collisionless excitation and dissociation of molecules by high-power infrared light. UFN, v. 124, no. 2, 1978, 379. (RZhF, 8/78, 8D1096)
387. Babichev, A.P., V.D. Klimov, V.A. Kuz'menko, V.A. Legasov, and V.M. Petrov (0). Study of the kinetics and selectivity of photochemical dissociation of SF₆ molecules in a pulsed CO₂ laser field. Zhurnal neorganicheskoy khimii, no. 8, 1978, 2014-2022.
388. Dembovetskiy, V.V., G.D. Rodionov, and Ya.M. Shmukler (0). Measuring absorption at 10.6 μ in a low-pressure CO₂ gas. IN: Sb 3, 7-12. (RZhF, 7/78, 7D1471)
389. Gordiyenko, V.M., A.V. Mikheyenko, and V.Ya. Panchenko (2). Vibrational-progressive relaxation in SF₆ exposed to high levels of excitation. KE, no. 8, 1978, 1789-1790.
390. Karlov, N.V. (0). Using lasers for selective excitation in atoms and molecules [laser separation of isotopes]. IN: Sb 20, 220-230. (RZhF, 8/78, 8D1293)
391. Klimov, V.D., V.A. Kuz'menko, and V.A. Legasov (0). Investigation of the reaction of SF₆ with SO₂ exposed to quasi-c-w CO₂ laser radiation. Zhurnal neorganicheskoy khimii, no. 8, 1978, 2009-2013.
392. Kornilova, A.I. (0). Third All-Union Scientific and Technical Conference-Seminar on the Problem of Laser Separation of Isotopes, Bakuriyani, 4-12 March 1978. KE, no. 7, 1978, 1614-1617.

393. Letokhov, V.S., and V.G. Minogin (72). Monochromatization of a relativistic proton beam by laser radiation. VMU, no. 4, 1978, 146-150.
394. Orayevskiy, A.N., A.F. Suchkov, and Yu.N. Shebeko (1). Theoretical study of the isotope composition of vibrationally-excited diatomic molecules with long V-T relaxation times. KSpF, no. 1, 1978, 37-42.
(RZhRadiot, 7/78, 7Ye717)
395. Papernov, S.M., K. Khoffmann, and M.L. Yanson (0). Population of $Cs_6^2 P_j$ states during laser excitation of cesium vapor. IN: Sb 21, 98-101. (LZhS, 29/78, 101491)
396. Papernov, S.M., G.V. Shlyapnikov, and M.L. Yanson (0). Photodissociation of vibrationally excited molecules. IN: Sb 21, 102-115.
(LZhS, 29/78, 101492)
397. Platonenko, V.T. (2). Mechanism of excitation of an IR field of high vibration-rotational states and dissociation of multiatomic molecules. KE, no. 8, 1978, 1783-1788.
398. Rutkovskiy, K.S., and K.G. Tokhadze (12). Study of vibrational relaxation of SF_6 exposed to low temperatures by a double IR resonance method. ZhETF, v. 75, no. 2, 1978, 408-414.
399. Samsonov, Yu.N. (295). Using c-w CO_2 laser radiation to induce and study thermal gas-phase reactions under homogeneous conditions. Institut khimicheskoy kinetiki i gorenija SOAN. Dissertation, 1977, 24 p. (KLDV, 1/78, p. 195)

400. Shuryak, E.V. (79). Nonlinear mechanics of molecular vibrations and the mechanism of noncollisional dissociation in an intense laser field.

KE, no. 8, 1978, 1796-1799.

401. Tugov, I.I. (1). Multiphoton quasiresonance dissociation of molecules.
Fizicheskiy institut AN SSSR. Preprint, no. 30, 1978, 18 p. (RZhF,
8/78, 8D1028)

G. MEASUREMENT OF LASER PARAMETERS

402. Anuchin, Ye.N., and E.V. Kuvaldin (0). Stroboscopic method for measuring the pulse characteristics of photodetectors and the power of widely-spaced repetitive pulses. IN: Sb 7, 85-89. (RZhF, 8/78, 8D1518)
403. Belousov, P.Ya., V.D. Prilepskikh, and V.A. Khanov (0). Method for stabilizing the wavelength of laser radiation. IN: Sb 7, 60-66.
(RZhF, 7/78, 7D1502)
404. Belousova, L.A., V.I. Borisov, and A.M. Goncharenko (0). Rotating laser beams. ZhPS, v. 29, no. 2, 1978, 350-352.
405. Berger, N.K., V.V. Novokhatskiy, and Yu.Ye. Studenikin (0). Experimental study of the radiation from a CO₂ laser with an inhomogeneous active medium. IN: Sb 7, 13-24. (RZhF, 7/78, 7D1431)
406. Berger, N.K. (0). Study of the wave front of CO₂ laser radiation.
IN: Sb 7, 52-59. (RZhF, 7/78, 7D1535)

407. Bikmukhametov, K.A., V.I. Bobrik, and A.K. Toropov (163).

High-precision comparison of laser wavelengths and frequencies.

IN: Tr 1, 5-12. (RZhMetrolog, 7/78, 7.32.1114)

408. Blazhenkov, V.V., A.N. Kirkin, A.M. Leontovich, A.M. Mozharovskiy, and A.N. Chuzo (0). Measurement of picosecond laser pulse duration by a high-speed optical shutter with an echelette. ZhTF P, no. 16, 1978, 945-946.

409. Bobrik, V.I., L.G. Vasil'yeva, A.A. Pomeranskiy, and A.K. Toropov (163). Errors in comparing wavelengths of lasers by dynamic band counting in dual-beam interferometers. IN: Tr 1, 12-20. (RZhMetrolog, 7/78, 7.32.1111)

410. Danilyuk, T.Ye. (0). Measuring the saturation intensity and gain in a CO₂ laser. IN: Sb 7, 25-31. (RZhF, 7/78, 7D1432)

411. Dyatlov, M.K., Yu.N. Kulikov, and V.A. Stepanov (0). Method for stabilizing the emission power level of a chemical vapor laser. Otkr izobr, no. 29, 1978, 401289.

412. Gaponov, A.V., M.I. Rabinovich, and M.F. Shapiro (8). Possible mechanism of stochasticization of laser radiation intensity pulsations. VMU, no. 4, 1978, 125-136.

413. Gavrilov, O.D., K.V. Gratsianov, V.K. Grunin, B.G. Malinin, A.V. Mezenov, N.V. Ponomareva, and A.I. Stepanov (0). Instruments and methods for studying the efficiency of pulsed laser pumping systems. IN: Sb 7, 132-135. (RZhF, 8/78, 8D1271)

414. Gavrilov, V.N., and A.A. Chastov (0). Measuring the parameters of Gaussian beams of pulsed radiation by nonlinear thermal detectors.
IN: Sb 7, 118-122. (RZhF, 8/78, 8D1268)
415. Grassme, W., and H. Sander (NS). Wavelength measurement, specifically for a dye laser. Patent GDR, no. 125931, issued 1 June 1977.
(RZhRadiot, 7/78, 7Ye504)
416. Grebenschchikov, I.I., and V.T. Kibovskiy (0). Measuring the energy of radiation pulses by integration with lock-in. IN: Sb 7, 89-93.
(RZhF, 8/78, 8D1491)
417. The INI-3 nanosecond pulse meter. KE, no. 8, 1978, 1858-1859.
418. Ivlev, Ye.I., and A.V. Kubarev (0). Comparing instruments for measuring medium power of infrared radiation. IN: Sb 7, 42-44. (RZhF, 8/78, 8D1526)
419. Kalinin, Yu.A., and Ye.I. Kuramin (0). The IMO-2-2 standard instrument for measuring the radiation power of lasers. IN: Sb 7, 44-48.
(RZhF, 8/78, 8D1282)
420. Khaskin, I.Ya., V.G. Medresh, and I.N. Yundenko (0). Measurement of laser radiation pulse duration. IT, no. 7, 1978, 49-50.
421. Klement'yev, V.M., Yu.A. Matyugin, and V.P. Chebotayev (159).
Measurement of optical range frequencies. State of the art and prospects.
KE, no. 8, 1978, 1671-1681.

422. Kolomnikov, Yu.D., A.P. Maksimov, B.S. Mogil'nitskiy, and I.P. Tokareva (0). Laser with an iodine absorption cell. Metrologiya, no. 3, 1978, 20-24.
423. Kuvaldin, E.V. (0). Evaluating the sensitivity and time resolution of simple nanosecond photometers. IN: Sb 7, 72-79. (RZhF, 8/78, 8D1520)
424. Nosach, O.Yu., and Ye.P. Orlov (1). Relationship between the degree of spatial coherence of a field and dispersion of laser radiation wave vectors. KE, no. 7, 1978, 1559-1566.
425. Orayevskiy, A.N. (1). The problem of developing a highly stable optical-range frequency standard using an atomic beam. KE, no. 8, 1978, 1850-1853.
426. Pavlov, V.I., A.Kh. Pergament, A.V. Ponomarev, and V.M. Chernyak (71). Study of thermoplastic deformations of the end faces of active elements of laser systems. Institut prikladnoy matematiki AN SSSR. Preprint, no. 8, 1978, 22 p. (RZhF, 7/78, 7D1522)
427. Pisareva, T.Ye., V.N. Puchkov, and A.I. Sitnikov (163). Standard device for measuring the parameters of molecular gas laser spectra. IN: Tr 1, 32-38. (RZhF, 8/78, 8D1281)
428. Rusin, F.S. (140). Possibility of developing frequency references with a nonlinear absorption cell in the millimeter and submillimeter ranges. IN: Tr 20, 22-41. (RZhRadiot, 7/78, 7Ye508)

429. Samoylov, M.S., Yu.A. Kalinin, A.A. Afonin, Ye.Ye. Nurkov-Morozov, and V.A. Safronov (24). Effect on the temperature gradient in the active element of a tunable laser. IVUZ Mash, no. 6, 1978, 52-58.
430. Semibalamut, V.M., and Ye.A. Titov (1). Field broadening and shifts of nonlinear power resonance in low-pressure gases. KE, no. 7, 1978, 1485-1491.
431. Sladky, P. (NS). Simple detector for measuring the energy of a medium-power laser. Ceskoslovensky casopis pro fysiku, v. A27, no. 6, 1977, 606-608. (RZhF, 7/78, 7D1524)
432. Thermographic paper. KE, no. 8, 1978, 1861.
433. Troitskiy, Yu.V. (75). Fabry-Perot reflecting interferometer as a frequency discriminator in laser frequency stabilization systems. Institut avtomatiki i elektrometrii SOAN. Preprint, no. 62, 1977, 24 p. (RZhF, 7/78, 7D1500)
434. Tsoy, V.I., E.M. Rabinovich, V.M. Grimblatov, and V.V. Tuchin (0). Errors in a method for measuring the diameter of a laser beam by means of spatial differentiation. IN: Sb 3, 67-73. (RZhF, 7/78, 7D1536)
435. Vagin, S.P., S.S. Vorontsov, R.I. Soloukhin, A.A. Shepelenko, and Yu.A. Yakobi (0). Panoramic spectroscopy of an extended laser medium. ZhPS, v. 29, no. 2, 1978, 224-230.
436. Vysokosov, Ye.P., B.I. Kozarenko, K.N. Kochanov, and L.S. Yunoshev (140). Photometric method for determining the angle of divergence of a laser beam. IN: Tr 21, pages not given. (RZhMetrolog, 8/78, 8.32.1347)

H. LASER MEASUREMENT APPLICATIONS

1. Direct Measurement by Laser

437. Abramov, K.D., and N.N. Yeldyshev (0). Direction-finding methods using optical angle-measuring systems. IN: Sb 22, 136-139. (RZhRadiot, 7/78, 7Ye757)
438. Abramski, K., and Z. Godzinski (NS). Domestic piezoelectric ceramic: properties, parameters and application in laser technology. Pomiary, Automatyka, Kontrola, no. 12, 1977, 452-454. (RZhRadiot, 7/78, 7Ye465)
439. Adamov, T.A. (133). Calculating the components of the effective signal of a differential scheme of a laser Doppler velocimeter. IN: Tr 10, 61-76. (LZhS, 5/78, 15675)
440. Akhmanov, S.A., F.N. Gadzhiev, N.I. Koroteyev, R.Yu. Orlov, and I.L. Shumay (2). Investigation of molecular dynamics and intramolecular interaction in cryogenic fluids by the method of coherent, active, high-resolution spectroscopy. VMU, no. 4, 1978, 25-34.
441. Aleksandrov, Yu.M., M.G. Kozlov, V.N. Makhov, R.V. Fedorchuk, and M.N. Yakimenko (0). Device for studying the absorption spectra in the 100-900 Å range. OiS, v. 45, no. 1, 1978, 178-181.
442. Aleshin, I.N., Yu.S. Gubkin, and V.A. Moskalev (30). Interferometer for studying phase objects, based on holography in opposed objects. IN: Tr 15, 67-71. (LZhS, 1/78, 341)

443. Alkhimov, A.P., A.N. Papyrin, and V.M. Boyko (0). Highly sensitive scheme for a laser Doppler velocimeter with a Fabry-Perot interferometer. IN: Sb 4, 204-206. (LZhS, 26/78, 92485)
444. Antonov, Ye.N., V.G. Koloshnikov, and V.R. Mironenko (0). Spectrophotometer with intraresonator absorption. IN: Sb 16, 2-7. (RZhF, 8/78, 8D1439)
445. Apostol, I.D., E. Cojocaru, V. Ghiordanescu, I.N. Mihailescu, L.C. Nistor, and V. Teodorescu (NS). Absorption coefficient measurements of KCl using a pulsed CO₂ laser radiation source. Revue Roumaine de Physique, no. 8, 1977, 881-883. (RZhF, 7/78, 7D1534)
446. Armencha, N.N., I.A. Vasil'yev, I.P. Molodyan, and O.A. Popa (0). Studying current leakage channels in integrated circuits by means of a laser scanning microscope. Mikroelektronika, no. 1, 1978, 66-69. (RZhRadiot, 7/78, 7Ye420)
447. Badanov, A.G., S.D. Zakharov, A.I. Isakov, I.A. Kopysov, G.N. Solov'yev, and V.D. Chalyy (1). Possibility of constructing an automatic control system using a high-power multichannel laser. Fizicheskiy institut AN SSSR. Preprint, no. 116, 1977, 39 p. (RZhF, 8/78, 8D1273)
448. Bakrunov, A.O., and I.V. Shchukin (199). Coherent optical methods for local processing of images. IN: Tr 22, 4-17. (LZhS, 25/78, 88750)
449. Basov, N.G., E.M. Belenov, S.I. Vedeneyev, G.P. Motulevich, and V.V. Nikitin (1). Quantum electronics of coherent electron systems. Fizicheskiy institut AN SSSR. Preprint, no. 45, 1978, 24 p. (RZhF, 8/78, 8Zh29)

450. Berger, N.K., I.A. Deryugin, and A.V. Mikheyenko (401). Interference method for measuring the distribution of a phase over the cross section of a laser beam. Otkr izobr, no. 28, 1978, 575917.
451. Bezuglov, V.A., and Yu.A. Shcherbina (118). Statistical characteristics of a multicomponent laser Doppler velocimeter signal. Deposit at VINITI, no. 1133-78, 3 April 1978, 22 p. (RZhF, 7/78, 7D1569)
452. Bilenko, D.I., Yu.N. Galishnikova, and B.A. Dvorkin (0). Ellipsometric control of dielectric layers in semiconductor structures during their production. OiS, v. 45, no. 1, 1978, 107-113.
453. Blatova, S.A., A.A. Petrov, V.M. Mitlin, et al. (458). Measuring the sizes of colloidal particles according to laser radiation scattering. IN: Tr 23, 16-18. (LZhS, 17/78, 60842)
454. Bogdanov, S.V., B.S. Rinkevichyus, and V.L. Chudov (19). Transformation of a Gaussian beam by elements of a laser anemometer. KE, no. 7, 1978, 1476-1484.
455. Bonch-Bruyevich, A.M., T.K. Razumova, and I.O. Starobogatov (0). Use of a photoacoustic recording method in single and multiphoton absorption spectrometry. IN: Sb 16, 12-16. (RZhF, 8/78, 8D1443)
456. Bondarenko, A.N., and V.P. Trotsenko (0). Multibeam interferometer to measure small mechanical vibration amplitudes. IT, no. 7, 1978, 56-57.
457. Boytsov, V.F. (0). Stopping down a ring optical resonator with plane mirrors and a spatially inhomogeneous amplifying medium. OiS, v. 45, no. 1, 1978, 118-126.

458. Boytsov, V.F. (0). Theory of frequency independence of opposed waves in a ring laser with plane mirrors, a diaphragm, and a spatially inhomogeneous medium. OIS, v. 45, no. 2, 1978, 396-397.
459. Britov, A.D., S.M. Karavayev, G.A. Kalyuzhnaya, A.L. Kurbatov, Yu.I. Gorina, and S.D. Sivachenko (7). Obtaining IR absorption spectra with superhigh resolution using a tunable PbTe laser diode. OMP, no. 7, 1978, 13-16.
460. Burakov, V.S., P.Ya. Misakov, P.I. Myshalov, P.A. Naumenkov, S.V. Nechayev, S.N. Raykov, and A.S. Uzunbadzhakov (0). The "Analiz" intraresonator atomic absorption spectrophotometer. IN: Sbornik. Vsesoyuznaya konferentsiya "Lazery na osnove slozhnykh organicheskikh soyedineniy i ikh primeneniye". 2nd. Dushanbe, 1977. Minsk, 1977, 345-346. (RZhRadiot, 7/78, 7Ye526)
461. Bussemer, P., K. Kneipp, H.E. Ponatu, A. Lau, and W. Werncke (NS). Inverse Raman scattering by polaritons in LiNbO₃ single crystals. Annalen der Physik, no. 4, 1977, 229-238. (RZhF, 7/78, 7D1318)
462. Chebotayev, V.P. (10). Method of scattered fields in optics. KE, no. 8, 1978, 1637-1648.
463. Cheremiskin, I.V., and T.K. Chekhlova (0). Some characteristics of thin-film ring laser radiation. OIS, v. 45, no. 2, 1978, 351-354.
464. Davydov, A.Ye., S.A. Abrukov, V.S. Abrukov, et al. (0). Studying a powder flare by optical methods based on its holographic image. IN: Sb 23, 75-80. (LZhS, 16/78, 57122)

465. Davydov, A.Ye., V.S. Abrukov, and S.A. Abrukov (0). Investigation of the structure of a singing flame by a holographic interferometry method. FGIV, no. 4, 1978, 132-135.
466. Dedlovskiy, M.M., and I.P. Korshunov (15). Measuring small optical losses in glass products. Institut radiotekhniki i elektroniki AN SSSR. Preprint, no. 13, 1977, 17 p. (RZhF, 7/78, 7D1218)
467. Dmitrenko, V.I., L.M. Ivliyev, I.A. Panyshin, and Ye.A. Podpalyy (308). Using an operative holographic apparatus to study crack propagation processes in railroad transportation structures. IN: Tr 17, 3-8. (RZhRadiot, 8/78, 8Ye355)
468. Dotsenko, A.V., Ye.L. Klochan, Ye.G. Lariontsev, and O.V. Fedorovich (98). Synchronization of opposed waves and beats in a solid-state ring laser. IVUZ Radiofiz, no. 8, 1978, 1132-1142.
469. Frolov, M.P. (118). Intraresonator laser spectroscopy by means of organic dye lasers. Moskovskiy fiziko-tehnicheskiy institut. Dissertation, 1977, 14 p. (KLDV, 3/78, 6894)
470. Galaktionova, N.M., V.V. Gershun, A.A. Kalmychek, A.A. Mak, O.A. Orlova, and V.I. Ustyugov (0). Solid-state laser with amplitude noise at the intrinsic level , and its application for supersensitive measurements. ZhTF P, no. 16, 1978, 1001.
471. Gerasimenko, A.N. (457). Kinematic principle of binary seismic holography. Geofizicheskiy sbornik, no. 84, 1978, 23-28.

472. Geraskin, V.S., and L.G. Khizhnyakov (265). Raising the resolving power of a laser interferometer with distributed feedback. Deposit at VINITI, no. 1020-78, 24 March 1978, 32-34. (RZhF, 7/78, 7D1808)
473. Geraskin, V.S., and L.G. Khizhnyakov (265). Using a laser interferometer to measure the vibration range of a complex form. Deposit at VINITI, no. 1020-78, 24 March 1978, 35-40. (RZhF, 7/78, 7D1807)
474. Gliwinski, T. (NS). Laser interferometer for measuring angles. Feingeraetetechnik, no. 3, 1978, 118-119. (RZhRadiot, 8/78, 8Ye248)
475. Gordyev, D.V., A.I. Marmalev, N.V. Nikitin, and A.A. Sheraziya (0). Device for controlling an operating unit. Author's certificate USSR, no. 557354, issued 9 July 1977. (RZhRadiot, 7/78, 7Ye655)
476. Grassme, W. (NS). Device for laser spectral microanalysis. Patent GDR. no. 124220, issued 9 February 1977. (RZhRadiot, 8/78, 8Ye282)
477. Gruden', M.N., Yu.G. D'yakova, and Yu.Ya. Sidorin (0). Using high-power semiconductor laser arrays in night vision and target designation systems. Zarubezhnaya radioelektronika, no. 12, 1977, 84-102. (RZhRadiot, 7/78, 7Ye758)
478. Gryciewicz, H. (NS). Method and device for measuring angular size and flow velocity. Patent Poland, no. 89127, issued 15 December 1976. (RZhRadiot, 7/78, 7Ye663)
479. Ivanov, V.P., V.P. Klochkov, and L.F. Kozlov (0). Study of a jet flow around a rotating ellipsoid by means of a laser Doppler anemometer. Inzhenerno-fizicheskiy zhurnal, v. 34, no. 1, 1978, 99-103. (RZhRadiot, 7/78, 7Ye672)

480. Karpova, T.A. (0). Determining the phase composition of mono- and polydisperse media with droplets, particles and bubbles, based on scattering of laser radiation. IN: Sb 5, 99-100. (RZhF, 8/78, 8D989)
481. Kiyachenko, Yu.F., and I.K. Yudin (0). Multichannel correlator for optical mixing spectroscopy. PTE, no. 4, 1978, 218-220.
482. Komissaruk, V.A., P.I. Kavalev, V.P. Martynov, and N.P. Mende (4). Using a polarizing interferometer in ballistic experiments. ZhTF, no. 7, 1978, 1457-1461.
483. Korostelev, A.A., and V.F. Fateyev (0). Electrodynamics of moving media in non-inertial recording systems used for ring laser processes. OiS, v. 45, no. 1, 1978, 132-139.
484. Kovalev, I.D., G.A. Maksimov, and A.I. Suchkov (0). Analytical characteristics of laser mass-spectrometers. IN: Sb 24, 71-74. (RZhF, 7/78, 7D1558)
485. Krsek, J., F. Petru, A. Keprt, and D. Lanak (NS). Single-laser barometer with digital readout. Author's certificate Czechoslovakia, no. 168149, issued 15 March 1977. (RZhRadiot, 7/78, 7Ye541)
486. Krsek, J., and F. Petru (NS). Device for measuring scattering by optical surfaces. Author's certificate Czechoslovakia, no. 168247, issued 15 March 1977. (RZhMetrolog, 7/78, 7.32.1138)
487. Kruglik, G.S., and E.G. Pestov (0). Precision limit of a laser gyroscope. ZhPS, v. 29, no. 2, 1978, 246-251.

488. Kuprishov, V.F., and A.V. Semenov (118). Study of a traveling wave regime in a YAG:Nd laser with an active element with Brewster windows.
IN: Tr 3, 40-45. (RZhF, 8/78, 8D1119)
489. Kutsak, A.A., and G.S. Kruglik (0). Quasi-classical motion equation for a ring laser, taking into account the processes of spontaneous emission in a lasing channel. ZhPS, v. 29, no. 1, 1978, 21-25.
490. Lakhno, V.I., and O.Ye. Bondar' (0). Spatial-time conversions in laser instruments for measuring short distances (structure of the spatial-time conversions). IN: Sb 22, 18-24. (RZhRadiot, 7/78, 7Ye538)
491. Larionov, Yu.P., and G.F. Mikhalkchenko (110). Comparative analysis of noise-rejection of laser gyroscope stands. IN: Tr 24, 136-140. (LZhS, 34/78, 121262)
492. Lariontsev, Ye.G. (0). Limit sensitivity of a laser gyroscope in an induced axial mode-locking regime. ZhTF P, no. 13, 1978, 769-771.
493. Lizunov, V.D. (0). Measuring the diameters of transparent filaments using He-Ne lasers. IT, no. 8, 1978, 50-52.
494. Lukin, I.P. (0). Accuracy of measuring the velocity [of a moving object] by a [lidar] interference method. IN: Sb 3, 102-107. (RZhF, 7/78, 7D1236)
495. Lutsenko, V.I. (0). Range equation for an optical DME. IN: Sb 22, 30-36. (RZhRadiot, 7/78, 7Ye645)

496. Lyubimov, V.V., V.L. Shur, and I.Sh. Etsin (0). Difraction phenomena in a dual-beam laser interferometer. OiS, v. 45, no. 2, 1978, 368-373.
497. Malag, A. (NS). Periodic structures and their application in opto-electronic semiconductor instruments. Rozprawy elektrotechniczne, no. 1, 1978, 191-225. (RZhF, 8/78, 8D1586)
498. Matviyenko, G.G., and I.V. Samokhvalov (78). Application of correlation analysis for laser wind-speed measurements. Meteorologiya i gidrologiya, no. 7, 1978, 99-103
499. Melekhov, P.V. (110). Extremal stepped system for stabilizing the perimeter of a laser angular velocity meter. IN: Tr 24, 144-145. (RZhRadiot, 7/78, 7Ye671)
500. Mel'nikova, T.Ye, and Z.V. Shekter (0). Determining the thickness of layers in semiconductor structures by the interference angle of laser radiation. IN: Sb 12, 102-111. (RZhRadiot, 8/78, 8Ye251)
501. Mohr, U. (NS). Saturation spectroscopy with pulse delay. Annalen der Physik, no. 5, 1977, 358-368. (RZhF, 7/78, 7D1304)
502. Mynbayev, D.K. (110). Information characteristics of a laser angular velocity meter. IN: Tr 24, 130-132. (RZhRadiot, 7/78, 7Ye673)
503. Nadtochiy, A.A. (0). Measurement of the electron concentration distribution in a plasma by means of microwave refraction, using holography. IN: Sb 25, 51-54.

504. Neporent, B.S. (0). Laser spectroscopy of fast transient processes.
IN: Sb 16, 52-59. (RZhRadiot, 8/78, 8Ye309)
505. Nesterikhin, Yu.Ye., S.G. Rautian, and G.I. Smirnov (75). Possibility
of recording gravitational waves with a laser detector. KE, no. 8,
1978, 1833-1836.
506. Nesterikhin, Yu.Ye., S.G. Rautian, and G.I. Smirnov (75). A laser
detector of gravitational waves. ZhETF, v. 75, no. 1, 1978, 4-8.
507. Novikov, S.A., V.V. Permyakov, A.I. Ryabikin, and V.A. Sinitsyn (0).
Application of a photometric method to measure the displacement of
metal shells under explosive loading. ZhPMTF, no. 4, 1978, 60-63.
508. Ok, Sh.M. (2). Laser spectroscopy of semiconductors in the A^{II}B^{VI}
group. Moskovskiy gos universitet. Dissertation, 1977, 18 p.
(KLDV, 3/78, 6813)
509. Pavlov, B.A., D.P. Potekhin, and I.Sh. Etsin (0). Automatic
interferometer for measuring the distance between reflecting surfaces.
IT, no. 8, 1978, 56-57.
510. Perskiy, M.I., I.V. Vinogradov, N.I. Volkov, and V.I. Danilovich (459).
Study of the LV-5 laser viewfinder. IN: Tr 25, 43-46. (LZhS, 17/78,
60916)
511. Pesin, M.S. (0). Determining the velocity and absorption of hypersound
by a thermal scattering of light method. IN: Sb 26, 17-20. (RZhF,
7/78, 7D1192)

512. Petru, F., and J. Krsek (NS). Device for measuring the reflectivity of mirrors. Author's certificate Czechoslovakia, no. 168936, issued 15 April 1977. (RZhMetrolog, 7/78, 7.32.1141)
513. Polivanov, Yu.N., and A.T. Sukhodol'skiy (O). Compensation of nonresonant background in coherent anti-Stokes Raman spectroscopy of crystals without a symmetry center. ZhTF P, no. 3, 1978, 164-167. (RZhF, 7/78, 7D1309)
514. Polivanov, Yu.N., and R.Sh. Sayakhov (1). Frequency-angular spectrum of hyper-Raman scattering by polaritons. KSpF, no. 1, 1978, 23-27. (RZhF, 7/78, 7D1311)
515. Prok, A. (NS). Device for measuring the roughness, flatness and inclination of surfaces. Author's certificate Czechoslovakia, no. 169126, issued 15 May 1977. (RZhRadiot, 8/78, 8Ye331)
516. Puchkov, V.N., and Yu.A. Fedorov (163). Combined laser spectrometer. IN: Tr 1, 43-50. (RZhF, 8/78, 8D1280)
517. Quillfeldt, W., and K. Berka (NS). Quantitative emission spectral microanalysis by laser, of samples with high concentrations [of components]. Jenaer Rundschau, no. 6, 1977, 302-305. (RZhRadiot, 7/78, 7Ye679)
518. Rudnitskiy, A.L. (O). Dispersion measurements of the coefficient of absorption using a frequency-modulated laser. IN: Sb 27, 5-10. (RZhF, 8/78, 8D1266)

519. Ryzhey, Yu.Ye., Ye.I. Kheyfets, and Ye.L. Shenderov (0). Optical pulse recording of sound fields. PTE, no. 4, 1978, 213-216.
520. Savel'yev, I.I., and A.M. Khromykh (118). Zeeman ring laser with a homogeneously broadened line congruent to the Doppler line. IN: Tr 3, 238-241. (RZhRadiot, 7/78, 7Ye22)
521. Tonkonogov, M.P., Yu.D. Il'yushenkov, P.Ye. Shilin, K.P. Tinchurin, V.A. Bayatakov, and I.P. Pereletov (0). Apparatus and methods for measuring the parameters of fast-flow processes. IN: Sb 28, 66-69. (RZhF, 8/78, 8D1579)
522. Vagin, S.P., and Yu.A. Yakobi (0). Laser sounding method for measuring the temperature of gas media containing CO₂. Inzhenerno-fizicheskiy zhurnal, v. 351, no. 1, 1978, 5-10.
523. Vasilenko, L.S., N.M. Dyuba, and M.N. Skvortsov (10). Coherent radiation in time-separated fields. KE, no. 8, 1978, 1725-1730.
524. Vayner, Yu.G., L.P. Malyavkin, and E.G. Sil'kis (0). Multichannel systems for recording extremely weak spectra. IN: Sb 16, 17-20. (RZhRadiot, 8/78, 8Ye257)
525. Vlasov, A.N. (0). Long-term instability and non-reproducibility of gas laser frequency and demands on automatic control systems. KE, no. 7, 1978, 1518-1524.
526. Yakovlev, V.I. (0). Absorption of infrared radiation due to electron drag by argon atoms. IN: Sb 27, 4-5. (RZhF, 8/78, 8G52)

527. Zakharchenko, S.V., and S.M. Kolomiyets (220). Device for measuring gradients in refractive index. Author's certificate USSR, no. 575474, issued 15 November 1977. (RZhRadiot, 8/78, 8Ye253)
528. Zarutskiy, M.A. (0). Identifying the material structure of components by holographic interferometry. IN: Sb 29, 86-95. (RZhRadiot, 7/78, 7Ye793)
529. Zaydel', A.N., G.V. Ostrovskaya, and Yu.I. Ostrovskiy (7). Holographic interferometry of pulsed and periodic processes. IN: Tr 26, 20-62. (LZhS, 10/78, 35038)
530. Zhilkin, V.A. (460). Some methods for interpreting holographic interferograms of diffusely reflecting objects. IN: Tr 27, 30-40. (LZhS, 18/78, 64341)

531. Zmiyevskoy, G.N., N.I. Krobka, and M.V. Sviridov (118). Effect of spatial inhomogeneity of gain on the operation of a traveling-wave optical amplifier. IN: Tr 3, 141-144. (RZhF, 7/78, 7D1406)

2. Laser-Excited Optical Effects

532. Antipenko, B.M., Ye.I. Lyubimov, V.B. Nikolayev, T.A. Privalova, and B.I. Spesivtsev (0). Cooperative processes in liquid media. ZhPS, v. 29, no. 1, 1978, 41-46.
533. Barkov, L.M., and M.S. Zolotorev (79). Search for parity nonconservation in atomic transitions. KE, no. 8, 1978, 1737-1739.

534. Basiyev, T.T., Yu.K. Voron'ko, A.Ya. Karasik, V.V. Osiko, and I.A. Shcherbakov (1). Spectral migration of electron excitation along Nd³⁺ ions in CaF₂-YF₃ under selective laser excitation. ZhETF, v. 75, no. 1, 1978, 66-74.
535. Batkin, I.S., Yu.G. Smirnov, and T.A. Churakova (0). Effect of a laser field on the probability of μ -capture in light nuclei. Yadernaya fizika, no. 1, 1977, 34-35. (LZhS, 1/78, 365)
536. Bogdanova, M.V. (2). Interaction of pulsed laser radiation with electron-vibrational transitions of molecules. Moskovskiy gos universitet. Dissertation, 1977, 14 p. (KLDV, 3/78, 6640)
537. Bonch-Bruyevich, V.A., and V.V. Ovsyankin (0). Phosphoroscopic variation of the Bloembergen system for quantum calculations of IR photons. ZhTF, no. 7, 1978, 1504-1513.
538. Boyakov, V.M., V.M. Yepikhin, B.A. Kalin, M.K. Makhatov, I.N. Nikolayev, and G.N. Shishkin (16). Spray-coating chemical element films using an Nd:glass laser. KE, no. 7, 1978, 1582-1584.
539. Brodin, M.S., N.V. Volovik, V.Ya. Reznichenko, and M.I. Strashnikova (0). Study of electron-hole droplets and plasma in mixed CdS_{1-x}Se_x crystals. ZhETF P, v. 28, no. 4, 1978, 230-235.
540. Denisov, V.N., B.N. Mavrin, V.B. Podobedov, and Kh.Ye. Sterin (72). Super Raman scattering in a LiNbO₃ crystal. ZhETF, v. 75, no. 2, 1978, 684-690.

541. Doepel, E., and D. Kuehlke (NS). Fluorescence of a molecular gas excited by a strong monochromatic standing wave radiation field. Czechoslovak Journal of Physics, v. B28, no. 2, 1978, 141-148.
542. Dokashenko, V.P., V.V. Yeremenko, and E.V. Matyushkin (36). Effect of the statistical properties of light on the intensity of two-exciton and multiphoton absorption in an MnF₂ antiferromagnetic crystal. Fizika nizkikh temperatur, no. 7, 1978, 897-901.
543. Dzhavadov, B.M., N.M. Gasanly, and B.N. Mavrin (86). Raman scattering in GaTe. IN: Tr 28, 138-139. (RZhF, 7/78, 7D695)
544. Garbuzov, D.Z., V.B. Khalfin, M.K. Trukan, V.G. Agafanov, and A. Abdullayev (4). Temperature dependence of the efficiency and radiative transition times in a straight-band GaAs-type semiconductor. FTP, no. 7, 1978, 1368-1379.
545. Geller, Yu.I. (0). Effect of stochastic laser radiation on inducing nonlinear resonances in a continuum. OiS, v. 45, no. 2, 1978, 355-362.
546. Gorelik, V.S., Kh.Sh. Rustamov, Yu.S. Kuz'minov, and M.M. Sushchinskiy (1). Temperature dependence of the Raman spectra of a Ba_xSr_{1-x}Nb₂O₆ crystal. Fizicheskiy institut AN SSSR. Preprint, no. 67, 1977, 27 p. (RZhF, 7/78, 7D697)
547. Gorelik, V.S., Kh.Sh. Rustamov, Yu.S. Kuz'minov, and M.M. Sushchinskiy (1). Effect of an electric field on the Raman spectrum of a Ba₂NaNb₅O₁₅ crystal. KSpF, no. 12, 1977, 22-26. (RZhF, 7/78, 7D698)

548. Kesamanly, F.P., V.F. Kovalenko, I.Ye. Maronchuk, G.P. Peka, and L.G. Shepel' (439). Investigation of the diffusion length in variable band solid solutions of $\text{Al}_x\text{Ga}_{1-x}\text{As}$. FTP, no. 7, 1978, 1318-1321.
549. Khriplovich, I.B. (79). Search for parity-nonconserving weak interaction between electrons and the nucleus by atomic spectroscopy methods. KE, no. 8, 1978, 1731-1736.
550. Khvalovskiy, V.V., S.N. Natarovskiy, and V.I. Nalivayko (30). Illuminating apparatus for coherent multilateral exposure of objects. IVUZ Priboro, no. 7, 1978, 97-100.
551. Kolomiyets, B.T., T.F. Mazets, and S.K. Pavlov (4). Change in the optical properties of amorphous $(\text{As}_2\text{Se}_3)_{1-x}(\text{As}_2\text{Te}_3)_x$ films subjected to an electrical field and optical excitation. FTP, no. 8, 1978, 1590-1594.
552. Kostyshin, M.T., V.M. Sharyy, and Ye.V. Mikhaylovskaya (0). Longwave luminescence of PbBr_2 crystals. ZhPS, v. 29, no. 1, 1978, 134-138.
553. Kuz'min, M.V. (1). Excitation of vibrations in molecules by varying the intensity of a laser pulse. KSpF, no. 7, 1977, 21-25. (LZhS, 2/78, 4388)
554. Liptuga, A.I., V.K. Malyutenko, and I.I. Boyko (6). Influence of nonequilibrium carriers on IR radiation passage through a plane-parallel semiconductor plate. FTP, no. 7, 1978, 1447-1449.

555. Novak, I.I., V.V. Baptizmanskiy, N.S. Smirnova, and A.V. Suborov (4).
Investigation of solid ion-implanted $\text{GaAs}_{1-x}\text{P}_x$ and $\text{Ga}_{1-x}\text{Al}_x\text{As}$ solutions by the Raman light scattering method. FTT, no. 7, 1978, 2134-2138.
556. Ovchinnikov, V.A., and Yu.P. Udoev (0). Effect of total internal reflection on the diffraction of light by a plane absorption grating. OiS, v. 45, no. 2, 1978, 363-367.
557. Plyatsko, G.V., V.G. Savitskiy, R.V. Lutsiv, A.A. Druzhinin, B.K. Kotlyarchuk, and S.G. Kiyak (114). Conduction type inversion in $n\text{-Cd}_x\text{Hg}_{1-x}\text{Te}$ alloys subjected to pulsed laser radiation. DAN Ukr, no. 7, 1978, 645-647.
558. Polivanov, Yu.N., and A.T. Sukhodol'skiy (1). Coherent anti-Stokes Raman light scattering by polaritons in an LiIO_3 crystal. KE, no. 8, 1978, 1689-1693.
559. Pyndyk, A.M., V.B. Podobedov, and V.N. Denisov (0). Polychromator for multichannel photoelectric recording of weak spectra. IN: Sb 16, 60-66. (RZhRadiot, 8/78, 8Ye305)
560. Shapiro, L.L., and D.Yu. Shustarev (0). Correcting nonlinear modulated distortions in acoustooptical television systems. ZhTF, no. 7, 1978, 1446-1448.
561. Shchelokov, R.N., and A.Yu. Tsivadze (0). Laser luminescence and Raman spectra of complex uranyl compounds. Koordinatsionnaya khimiya, no. 2, 1978, 313. (RZhF, 7/78, 7D977)

562. Tamanis, M.Ya., R.S. Ferber, and O.A. Shmit (0). Study of optical pumping of the ground state of diatomic molecules according to the polarization of laser-excited fluorescence. IN: Sb 21, 116-137.
(LZhS, 29/78, 101500)
563. Valov, P.M., B.I. Vasil'yev, A.P. Dyad'kin, and I.D. Yaroshetskiy (4).
Spectral dependence of electron entrainment by photons in p-Ge.
FTP, no. 7, 1978, 1288-1292.
564. Vasilenko, L.S., L.N. Gus'kov, and A.V. Shishayev (10). Study of polarization rotation near resonance. KE, no. 8, 1978, 1746-1748.
565. Vedeneyeva, G.V., I.I. Zasavitskiy, V.G. Koloshnikov, Yu.A. Kuritsyn, and A.P. Shotov (0). Using a Pb_{0.955}Sn_{0.045}Se pulsed laser for high-resolution spectroscopy of the NH₃ molecule. ZhTF P, no. 15, 1978, 927-930.
566. Zverev, V.N. (66). Oscillations of germanium photoconductivity in a magnetic field under monochromatic impurity excitation. ZhETF P, v. 28, no. 3, 1978, 144-148.

J. BEAM-TARGET INTERACTION

1. Metal Targets

567. Arifov, U.A., S.T. Azizov, and V.B. Lugovskoy (202). Temperature dependence of the electron emission caused by the action of laser radiation on tungsten needles in a strong electrostatic field.
FTT, no. 7, 1978, 2047-2050.

568. Arzuov, M.I., M.Ye. Karasev, V.I. Konov, V.V. Kostin, S.M. Metev, A.S. Silenok, and N.I. Chapliyev (1). Metal targets exposed to pulsed-periodic CO₂ laser radiation in air. KE, no. 7, 1978, 1567-1575.
569. Bessarab, A.V., V.M. Romanov, V.A. Samylin, and A.I. Funtikov (0). Onset time of surface shielding under CO₂ laser radiation. ZhTF, no. 8, 1978, 1751-1753.
570. Bonch-Bruyevich, A.M., M.N. Libenson, V.S. Makin, S.D. Pudkov, I.N. Ivanova, and M.K. Kochengina (0). Influence of oxygen diffusion and dissolution in a metal on the change in its optical properties under heating by radiation. ZhTF P, no. 15, 1978, 921-926.
571. Buravlev, Yu.M., Ye.A. Voloshina, Yu.I. Kovalenko, and B.P. Nadezhda (0). Influence of the metal target temperature on the laser erosion of metals and alloys. FiKhOM, no. 4, 1978, 9-13.
572. Korobeynikov, V.P., and V.N. Soshnikov (0). Possible flare mechanism from the effect of monochromatic radiation on a metal surface. Inzhenerno-fizicheskiy zhurnal, v. 35, no. 2, 1978, 221-228.
573. Kovalenko, V.S., L.M. Oleshchuk, V.P. Dyatel, and V.A. Bogolepov (0). Hole processing using a laser apparatus with a movable focusing unit. EOM, no. 4, 1978, 7-9.
574. Uglov, A.A., A.G. Gnedovets, and A.L. Galiyev (0). Change in steel microhardness in an inert gas atmosphere under laser irradiation. FiKhOM, no. 4, 1978, 18-23.

575. Yershova, L.S. (0). Recrystallization [of iron-tungsten and iron-nickel alloys] under the action of laser irradiation. FiKhOM, no. 6, 1977, 19-24.
576. Zhiryakov, B.M., N.I. Popov, and A.A. Samokhin (1). Effect of plasma on the interaction between laser radiation and metal. ZhETF, v. 75, no. 2, 1978, 494-503.

2. Dielectric Targets

577. Aleshin, I.V., A.A. Doman', and Ya.A. Imas (0). Optical breakdown of glass under sharp focusing of laser radiation. ZhTF P, no. 14, 1978, 861-863.
578. Batyрева, И.А., В.И. Беспалов, А.М. Киселев, и А.М. Миллер (426). Characteristics of damage to water-soluble nonlinear crystals by laser pulses. KE, no. 8, 1978, 1838-1841.
579. Bonch-Bruyevich, A.M., V.I. Zinchenko, Ya.A. Imas, and L.N. Kaporskii (0). Initiation of a low-threshold breakdown on a gas-dielectric boundary. ZhTF P, no. 14, 1978, 853-855.
580. Bukharayev, A.A., and N.R. Yafayev (0). Laser bleaching of color centers in potassium borate glass. Fizika i khimiya stekla, no. 4, 1977, 380-384. (LZhS, 4/78, 12180)
581. Kask, N.Ye., V.V. Radchenko, G.M. Fedorov, and D.V. Choporniyak (0). Optical discharge in glass. ZhTF P, no. 13, 1978, 775-778.

582. Kovalev, V.I., and F.S. Fayzullov (1). Dynamics of breakdown development near the surface of IR optical elements in a gas medium. KE, no. 7, 1978, 1605-1608.
583. Makshantsev, B.I., and N.F. Pilipetskiy (17). Scattering of laser radiation in solid transparent dielectrics by absorption inclusions. Institut problem mekhaniki AN SSSR. Preprint, no. 102, 1978, 13 p. (RZhF, 7/78, 7D1195)
584. Skvortsov, L.A. (118). Study of the destruction processes of film dielectric coatings and dielectric materials by high-power laser radiation. Moskovskiy fiziko-tehnicheskiy institut. Dissertation, 1977, 15 p. (KLDV, 3/78, 6864)
585. Skvortsov, L.A., and S.A. Kolyadin (118). Effect of a surface layer on the resistance of lithium niobate to laser radiation action. IN: Tr 3, 160-163. (RZhRadiot, 8/78, 8Ye250)
586. Uglov, A.A., S.A. Fokin, V.V. Sipyagin, N.P. Ignatenko, and K.D. Vasil'yev (0). Use of lasers for processing, improving the quality and monitoring of raw diamonds. FiKhOM, no. 6, 1977, 10-18.
587. Vurzel', F.B., and V.F. Nazarov (0). Glass cutting by concentrated energy sources. FiKhOM, no. 4, 1978, 30-36.
588. Yeron'ko, S.B., K.N. Kuksenko, and A. Chmel' (0). Changes in the surface of activated glass under the action of optical radiation as evidenced in its IR spectra. Fizika i khimiya stekla, no. 1, 1978, 121-124. (RZhF, 7/78, 7D1485)

3. Semiconductor Targets

589. Epshteyn, E.M. (0). Optical thermal breakdown of a semiconductor membrane. ZhTF, no. 8, 1978, 1733-1736.
590. Nasyrov, U., and Ye.D. Dzhaksimov (0). Destruction of an As₂S₃ surface by laser radiation. Karakalpakskiy filial AN UzSSR. Vestnik, no. 3, 1977, 30-32. (LZhS, 25/78, 87726)
591. Plyatsko, G.V., A.A. Kipen', N.I. Virikhovskiy, O.V. Franiv, and B.K. Kotlyarchuk (0). Structural characteristics and electric properties of the surface of CdS_xTe_{1-x}, CdSe_xTe_{1-x}, and (ZnSe)_x(CdTe)_{1-x} in the impact zone of a high-power laser pulse. IN: Sb 30, 84-85. (RZhRadiot, 7/78, 7Ye607)
592. Teteris, Ya.A., and Yu.A. Ekmanis (63). Fluctuations of the optical properties of amorphous As-Se films exposed to high-power optical pulses. KE, no. 7, 1978, 1611-1613.
593. Tyagay, V.A., V.A. Sterligov, and G.Ya. Kolbasov (0). Laws governing the anode oxidation of a CdS surface in a field of interfering laser beams. IN: Sb 30, 140-141. (RZhRadiot, 7/78, 7Ye638)

4. Miscellaneous Studies

594. Fedoseyev, D.V., A.V. Lavrent'yev, I.G. Varshavskaya, A.V. Bochko, and G.G. Karyuk (83). Determining the coefficient of thermal conductivity of refractory materials by means of a laser. Poroshkovaya metallurgiya, no. 3, 1978, 92-94. (RZh Elektrotehnika i energetika, 8/78, 8V365)

595. Ivanov, L.I., and V.A. Yanushkevich (0). Effect of pulsed laser radiation on the internal properties of metal and semiconductor materials. FiKhOM, no. 6, 1977, 3-9.
596. Klinnart, M., and H. Domrau (NS). Device for processing materials by laser beam. Patent GDR, no. 125253, issued 13 April 1977 (RZhRadiot, 8/78, 8Ye276)
597. Kytina, I.G., and A.S. Obukhov (0). Method for determining damage thresholds of optical materials. Otkr izobr, no. 26, 1978, 615358.
598. Libenson, M.N. (0). Thermochemical instability of condensed media subjected to optical heating. ZhTF P, no. 15, 1978, 917-920.
599. Lysenko, V.S., A.N. Nazarov, and S.B. Kaschiyeva (0). Effect of laser radiation on the electrophysical properties of the interface of metal-semiconductor-dielectric structures doped with boron ions. IN: Sb 30, 46-48. (RZhRadiot, 7/78, 7Ye642)
600. Mustafin, T.N., G.A. Kachurin, V.P. Popov, N.B. Pridachin, V.G. Seryapin, and L.S. Smirnov (10). Zinc diffusion during laser annealing of implanted silicon layers. FTP, no. 7, 1978, 1312-1317.
601. Uglov, A.A., A.N. Kokora, and N.V. Berlin (22). Cutting non-metallic materials with a CO₂ laser beam. KE, no. 7, 1978, 1553-1558.
602. Vlasov, R.A., and S.P. Zhvavyy (3). Possibility of an avalanche shock ionization mechanism in the optical breakdown of alkali-halide crystals. FTT, no. 7, 1978, 2085-1089.

603. Zakharov, S.D. (1). Optical self-focusing method in studying the interaction of laser radiation with matter. Fizicheskiy institut AN SSSR. Preprint, no. 210, 1977, 23 p. (RZhF, 7/78, 7D1456)
- K. PLASMA GENERATION AND DIAGNOSTICS
604. Aleksandrov, V.V. (23). Experimental studies of the processes occurring under the action of high-power laser radiation in a plasma corona. Institut atomnoy energii. Dissertation, 1977, 16 p. (KLDV, 3/78, 6608)
605. Andreyev, N.Ye., and V.P. Silin (1). Dynamics of nonlinear absorption of intense radiation by a moving plasma. Fizika plazmy, no. 4, 1978, 908-913.
606. Anisimov, S.I., M.F. Ivanov, and N.A. Inogamov (0). Dynamics of laser compression and heating of simple targets. Preprint. Facility not given, Chernogolovka, 1977, 72 p. (RZhF, 7/78, 7G310)
607. Apostol, V., I. Apostol, E. Cojocaru, V.I. Konov, V. Vraganescu, I.N. Mihailescu, and I. Morjan (NS). Interferometric investigation of shock waves induced by a laser-produced plasma. IN: Sb 31, 895-896. (RZhRadiot, 7/78, 7Ye587)
608. Askar'yan, G.A., N.P. Datskevich, Ye.K. Karlova, N.V. Karlov, N.N. Kononov, G.P. Kuz'min, and I.M. Rayevskiy (1). Cumulative effects in the optical breakdown of gases in a high-power annular-beam CO₂ laser. ZhTF P, no. 16, 1978, 966-970.

609. Basov, N.G., P.P. Volosevich, Ye.G. Gamaliy, S.Yu. Gus'kov, Yu.A. Zakharenkov, O.N. Krokhin, V.B. Rozanov, G.V. Sklizkov, and A.S. Shikanov (1). Dynamics of the compression of laser-irradiated shell targets. ZhETF P, v. 28, no. 3, 1978, 135-139.
610. Boyko, V.A. (1). X-ray spectroscopy of a laser plasma. Fizicheskiy institut AN SSSR. Dissertation, 1977, 24 p. (KLDV, 3/78, 6568)
611. Feigin, A.M. (NS). The particle trapping influence on stimulated scattering of electromagnetic waves in plasma. IN: Sb 31, 871-872. (RZhRadiot, 7/78, 7Ye565)
612. Gekker, I.R. (0). Experiments on the interaction of electromagnetic waves with a plasma in the optical (laser) range. Section in book: Vzaimodeystviye sil'nykh elektromagnitnykh poley s plazmoy (Interaction of intense electromagnetic waves with a plasma). Moskva, Atomizdat, 1978, 237-244.
613. Gus'kov, S.Yu., V.B. Kryuchenkov, and V.A. Lykov (1). Corpuscular diagnostics of a laser plasma. Fizicheskiy institut AN SSSR. Preprint, no. 196, 1977, 62 p. (RZhF, 7/78, 7G610)
614. Kitayeva, V.F., Yu.I. Osipov, V.V. Pikalov, N.G. Preobrazhenskiy, N.N. Sobolev, and L.L. Frumin (1). Local probing studies of plasma using an argon laser. ZhTF, no. 8, 1978, 1663-1671.
615. Krupnova, L.V., V.P. Silin, and V.T. Tikhonchuk (1). Re-emission of light in a parametrically turbulent laser plasma. Fizicheskiy institut AN SSSR. Preprint, no. 42, 1978, 20 p. (RZhMekh, 8/78, 8B426)

616. Kudrevatova, O.V., and L.V. Norinskiy (0). Mechanism of optical initiation of a directional electrical breakdown in a gas, and the possible effect on the discharge and plasmachemical reaction kinetics. KhVE, no. 4, 1978, 359-365.
617. Kurbatov, A.A., and N.G. Preobrazhenskiy (0). Laser breakdown of a gas in a magnetic field. IN: Sb 4, 17-19. (LZhS, 26/78, 91128)
618. Machabeli, G.Z. (456). Parametric excitation of high-frequency potential waves by a cold homogeneous plasma. Fizika plazmy, no. 4, 1978, 914-919.
619. Machabeli, G.Z., and E.G. Tsikarishvili (456). Role of relativistic effects in the parametric excitation of low-frequency potential waves. Fizika plazmy, no. 4, 1978, 920-925.
620. Makomaski, A.H., and Z.A. Pietrzyk (NS). Numerical simulation of a laser solenoid experiment. IN: Sb 31, 893-894. (RZhRadiot, 7/78, 7Ye586)
621. Nefed'yev, L.A. (214). Studying a plasma and flow-through processes in it by optical superradiance. IN: Tr 6, 136-152. (LZhS, 26/78, 91134)
622. Nemchinov, I.V., and T.I. Orlova (276). Processes at a target surface during propagation of a plasma front from it against the laser beam. Fizika plazmy, no. 4, 1978, 949-952.

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BIBLIOGRAPHY OF SOVIET LASER DEVELOPMENTS, NUMBER 36, JULY-AUGU--ETC(U)
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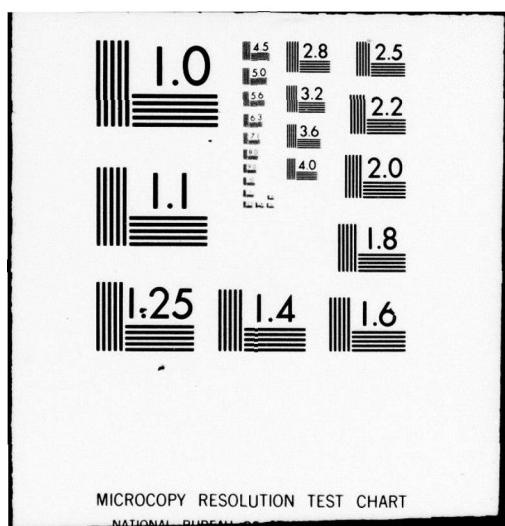
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623. Peregudov, G.V., and Ye.N. Ragozin (1). Photographs of a laser flare in bright-line radiation of multicharge ions in the far VUV spectrum range. ZhETF P, v. 28, no. 1, 1978, 27-31.
624. Vladimirskiy, A.B., V.P. Silin, and A.N. Starodub (1). Nonlinear penetration of high-power electromagnetic radiation into a parametrically absorbing plasma. KSpF, no. 7, 1977, 37-42. (LZhS, 2/78, 4195)

III. MONOGRAPHS, BOOKS, CONFERENCE PROCEEDINGS

625. Delone, N.B., and V.P. Kraynov (0). Atom v sil'nom svetom pole
(Atom in a strong light field). Moskva, Atomizdat, 1978, 288 p.
626. Gudzenko, L.I., and S.I. Yakovlenko (0). Plazmennyye lazery
(Plasma lasers). Moskva, Atomizdat, 1978, 256 p.
627. Kruglik, G.S. (0). Kvantovo-statisticheskaya teoriya kol'tsevykh
OKG (Quantum statistical theory of ring lasers). Minsk, Nauka i
tekhnika, 1978, 88 p. (RZhF, 7/78, 7D1349)
628. Kulakov, S.V. (0). Akustoopticheskiye ustroystva spektral'nogo i
korrelyatsionnogo analiza signalov (Acoustooptical device for spectral
and correlation signal analysis). Leningrad, Nauka, 1978, 144 p.
629. Kuz'min, R.N. (0). Gamma-lazery: Novyye idei (Gamma lasers: new ideas).
Moskva, Znaniye. Novoye v zhizni, nauke, tekhnike. Seriya Fizika, no. 1,
1978, 64 p. (KL, 26/78, 23306)
630. Lazernyye puchki (Laser beams). Khabarovskiy politekhnicheskiy institut.
Sbornik nauchnykh trudov. Khabarovsk, 1977, 122 p. (RZhRadiot, 8/78,
8Ye35)
631. Mirzayev, A.T. (0). Lazery v polimernoy khimii (Lasers in polymer
chemistry). Tashkent: Uzbekistan, Besedy o nauke, no. 29, 1977, 16 p.
(KL, 31/78, 26850)

632. Nazarov, I.M., A.N. Nikolayev, and Sh.D. Fridman (0). Distantionnyye i ekspressnyye metody opredeleniya zagryazneniya okruzhayushchey sredy (Remote and rapid methods for determining environmental pollution).
Moskva, Gidrometeoizdat, 1977, 195 p.
633. Opticheskiye metody obrabotki informatsii (Optical methods for processing information). Minsk, Nauka i tekhnika, 1978, 232 p. (RZhF, 8/78, 8D923)
634. Optika atmosfery (Atmospheric optics). Institut eksperimental'noy meteorologii. Trudy, no. 18(71), 1978, 159 p.
635. Pribory i metody distantsionnogo izmereniya opticheskikh parametrov atmosfery (Instruments and methods for remote measurement of optical parameters of the atmosphere). NII gidrometeorologicheskogo priborostroyeniya. Trudy, no. 36, 1978, 120 p.
636. Rinkevichyus, B.S. (0). Lazernaya anemometriya (Laser anemometry).
Moskva, Energiya, 1978, 160 p.
637. Semenov, A.A., and T.I. Arsen'yan (0). Fluktuatsii elektromagnitnykh voln na prizemnykh trassakh (Fluctuations of electromagnetic waves in atmospheric boundary layer paths). Moskva, Nauka, 1978, 272 p.
(RZhRadiot, 8/78, 8B308)
638. Sovetsko-frantsuzskiy simpozium po optikospektral'nym priboram i priboram dlya obrabotki izobrazheniy, Moskva, sentyabr', 1976. Materialy (Soviet-French Symposium on Optico-Spectral and Image Processing Instruments, Moscow, September 1976. Materials). Moskva, 1977, 367 p. (RZhRadiot, 8/78, 8Ye20)

IV. SOURCE ABBREVIATIONS

(CIRC Codens)

BWAT	(BWATA)	Biuletyn Wojskowej akademii technicznej J. Dabrowskiego
DAN SSSR	(DANKA)	Akademiya nauk SSSR. Doklady
DAN Ukr	(DUKAB)	Akademiya nauk Ukrayins'koyi RSR. Dopovidi. Seriya A. Fizyko-matematichni ta tekhnichni nauky
EOM	(EOBMA)	Elektronnaya obrabotka materialov
FDiR	(FDRSB)	Fizyka dielektrykow i radiospektroskopia. Prace komisji matematyczno-przyrodniczej Poznanskie towarzystwo przyjaciol nauk
FiKhOM	(FKOMA)	Fizika i khimiya obrabotka materialov
FGiV	(FGVZA)	Fizika gorenija i vzryva
FTP	(FTPPA)	Fizika i tekhnika poluprovodnikov
FTT	(FTVTA)	Fizika tverdogo tela
IAN B	(VABFA)	Akademiya nauk Belorusskoy SSR. Izvestiya. Seriya fiziko-matematicheskikh nauk
IAN Lat	(LZFTA)	Akademiya nauk Lativskoy SSR. Izvestiya. Seriya fizicheskikh i tekhnicheskikh nauk
IT	(IZTEA)	Izmeritel'naya tekhnika
IVUZ Fiz	(IVUFA)	Izvestiya vysshikh uchebnykh zavedeniy. Fizika
IVUZ Mash	(IVUSA)	Izvestiya vysshikh uchebnykh zavedeniy. Mashinostroyeniye
IVUZ Priboro	(IVUBA)	Izvestiya vysshikh uchebnykh zavedeniy. Priborostroyeniye
IVUZ Radioelektr	(IVUZB)	Izvestiya vysshikh uchebnykh zavedeniy. Radioelektronika
IVUZ Radiofiz	(IVYRA)	Izvestiya vysshikh uchebnykh zavedeniy. Radiofizika
KE	(KVEKA)	Kvantovaya elektronika
KhVE	(KHVKA)	Khimiya vysokikh energiy
KL	(KNLTA)	Knizhnaya letopis'
KLDV	(KLDVA)	Knizhnaya letopis'. Dopolnitel'nyy vypusk

KSpF	(KRSFA)	Kratkiye soobshcheniya po fizike
LZhS	(LZSTA)	Letopis' zhurnalnykh statey
NM	(IVNMA)	Akademiya nauk SSSR. Izvestiya. Neorganicheskiye materialy
OiS	(OPSPA)	Optika i spektroskopiya
OMP	(OPMPA)	Optiko-mekhanicheskaya promyshlennost'
Otkr izobr	(OIPOB)	Otkrytiya, izobreteniya, promyshlennyye obraztsy, tovarnyye znaki
PTE	(PRTEA)	Pribory i tekhnika eksperimenta
RiE	(RAELA)	Radiotekhnika i elektronika
RZhF	(RZFZA)	Referativnyy zhurnal. Fizika
RZhGeofiz	(RZGFA)	Referativnyy zhurnal. Geofizika
RZhMekh	(RZMKA)	Referativnyy zhurnal. Mekhanika
RZhMetrolog	(RZMIB)	Referativnyy zhurnal. Metrologiya i izmeritel'naya tekhnika
RZhRadiot	(RZRAB)	Referativnyy zhurnal. Radiotekhnika
Sb1		Sbornik. Opticheskiye metody obrabotki informatsii. Minsk, Nauka i tekhnika, 1978.
Sb2		Prikladnaya i teoreticheskaya fizika, no. 10, 1977.
Sb3		Lazernyye puchki. Khabarovsk, 1977.
Sb4		Aerofizicheskiye issledovaniya, no. 6, 1976.
Sb5		Problemy teplo- i massoobmena-77. Minsk, 1977.
Sb6		Radiotekhnicheskiye i elektronnyye ustroystva. Voronezh, 1977.
Sb7		Impul'snaya fotometriya, no. 5, 1978.
Sb8		Poluprovodnikovaya tekhnika i mikroelektronika, no. 23, 1976.
Sb9		Segneto- i p'yezomaterialy i ikh primeneniye. Moskva, 1978.
Sb10		Elektroopticheskaya segnetokeramika. Riga, 1977.
Sb11		Problemy asimptoticheskoy teorii nelineynikh kolebaniy. Kiyev, 1977.

- Sb12 Fizika poluprovodniki i poluprovodnikovaya elektroniki,
no. 7, 1976.
- Sb13 Radiofizicheskiye issledovaniya atmosfery. Leningrad,
Gidrometeoizdat, 1977.
- Sb14 Priborostroyeniye, no. 25, Kiyev, 1978.
- Sb15 Voprosy postroyeniya sistem optimal'noy obrabotki
informatsii, no. 2, 1977.
- Sb16 Sovetsko-frantsuzskiy simpozium optikospektral'nym priboram
i priboram dlya obrabotki izobrazheniy, Moskva, September
1976. Materialy. Moskva, 1977.
- Sb17 Neserebryanyye i neobychnyye sredy dlya holografii.
Leningrad, 1978.
- Sb18 Voprosy kibernetiki, no. 38, Moskva, 1978.
- Sb19 Molodoy nauchnyy rabotnik. Yestestvennyye nauki,
no. 20/26, 1977.
- Sb20 Zimnaya shkola po fizike poluprovodnikov. 8th. 1977.
Materialy. Leningrad, 1977.
- Sb21 Sensibilizirovannaya fluorescensiya smesey parov metallov,
no. 6, 1977.
- Sb22 Radioelektronika letatel'nykh apparatov, no. 9, 1977.
- Sb23 Fizika goreniya i metody yeye issledovaniya, no. 7, 1977.
- Sb24 Poluchenije i analiz chistykh veshchestv, no. 2, 1977.
- Sb25 Radiotekhnika, no. 46, Khar'kov, 1978.
- Sb26 Fiziko-khimicheskiye protsessy i svoystva tverdykh tel.
Voronezh, 1977.
- Sb27 Metody issledovaniy radiatsionnykh svoystv sredy.
Novosibirsk, 1977.
- Sb28 Teoriya i praktika elektrogidravlicheskogo effekta.
Kiyev, 1978.
- Sb29 Opticheskaya holografiya i yeye primeneniye. Leningrad,
1977.
- Sb30 Vsesoyuznoye soveshchaniye po fizike poverkhnostnykh
yavleniy v poluprovodnikakh. 6th. November 1977. Part 2.
Tezisy dokladov. Kiyev, 1977.
- Sb31 International Conference on Phenomena in Ionized Gases.
13th. Berlin, 1977. Proceedings. Contributed Papers. Part 2.
Leipzig, 1977.

TKiT	(TKTEA)	Tekhnika kino i televideniya
Tr1		Trudy metrologicheskikh institutov SSSR. VNII metrologii, no. 220/280, 1977.
Tr2		Khar'kovskiy universitet. Vestnik, no. 163, 1978.
Tr3		Moskovskiy fiziko-tehnicheskiy institut. Trudy, no. 12, 1977.
Tr4		TsAGI (Tsentral'nyy aerogidrodinamicheskiy institut). Uchenyye zapiski, no. 6, 1977.
Tr5		Tashkentskiy gos pedagogicheskiy institut. Sbornik nauchnykh trudov, no. 212, 1977.
Tr6		Kazanskiy pedagogicheskiy institut. Uchenyye zapiski, no. 163, 1976.
Tr7		Leningradskiy elektrotehnicheskiy institut. Izvestiya, no. 220, 1977.
Tr8		TsNII svyazi. Sbornik nauchnykh trudov, no. 2, 1977.
Tr9		Belorusskiy universitet. Vestnik, seriya 1, 1978.
Tr10		Tsentral'nyy aerogidrodinamicheskiy institut. Trudy, no. 1755, 1976.
Tr11		Institut eksperimental'noy meteorologii. Trudy, no. 18(71), 1978.
Tr12		Institut eksperimental'noy meteorologii. Trudy, no. 19(72), 1978.
Tr13		NII gidrometeorologicheskogo priborostroyeniya. Trudy, no. 36, 1978.
Tr14		Institut geofiziki AN GruzSSR. Trudy, no. 40, 1977.
Tr15		Leningradskiy institut tochnoy mekhaniki i optiki. Trudy, no. 87, 1976.
Tr16		Kiyevskiy politehnicheskiy institut. Vestnik. Radioelektronika, no. 15, 1978.
Tr17		Moskovskiy institut inzhenerov zhelezno-dorozhnogo transporta. Trudy, no. 552, 1977.
Tr18		Moskovskoye vysshey tekhnicheskoye uchilishche. Trudy, no. 258, 1977.
Tr19		Moskovskiy inzhenerno-stroitel'nyy institut. Sbornik nauchnykh trudov, no. 137, 1976.

- Tr20 VNII fiziko-tehnicheskikh i radiotekhnicheskikh izmereniy.
 Trudy, no. 36/65, 1977.
- Tr21 VNII fiziko-tehnicheskikh i radiotekhnicheskikh izmereniy.
 Trudy, no. 34/64, 1977.
- Tr22 Moskovskiy institut elektronnogo mashinostroyeniya.
 Trudy, no. 51, 1976.
- Tr23 Kuybyshevskiy pedagogicheskiy institut. Nauchnyye trudy,
 no. 174, 1976.
- Tr24 Leningradskiy elektrotekhnicheskiy institut. Izvestiya,
 no. 215, 1977.
- Tr25 Moskovskiy institut inzhenerov zemleustroystva.
 Nauchnyye trudy, no. 90, 1977.
- Tr26 Gosudarstvennyy opticheskiy institut. Trudy, v. 42,
 no. 176, 1975.
- Tr27 Chelyabinskiy politekhnicheskiy institut. Tematicheskiy
 sbornik nauchnykh trudov, no. 182, 1976.
- Tr28 Azerbaydzhanskiy universitet. Uchenyye zapiski. Seriya
 fiziko-matematicheskikh nauk, no. 2, 1977.
- | | | |
|---------|---------|--|
| UFN | (UFNAA) | Uspekhi fizicheskikh nauk |
| VMU | (VMUFA) | Moskovskiy universitet. Vestnik. Fizika, astronomiya |
| ZhETF | (ZEIFA) | Zhurnal eksperimental'noy i teoreticheskoy fiziki |
| ZhETF P | (ZFPRA) | Pis'ma v Zhurnal eksperimental'noy i teoreticheskoy fiziki |
| ZhPMTF | (ZPMFA) | Zhurnal prikladnoy mehaniki i tekhnicheskoy fiziki |
| ZhPS | (ZPSBA) | Zhurnal prikladnoy spektroskopii |
| ZhTF | (ZTEFA) | Zhurnal tekhnicheskoy fiziki |
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SOSNIN A YU	8	SUCHKOVSKIY M	81	TAL' ROZE VL	17	TYAGAY VA	62	VLASOV NG	50
SOSHNIKOV V N	8	SUCHKOVSKIY M	81	TAMANIS HYA	80	TURKIN NG	48	VLASOV RA	85
SOSKIN HS	8	SUCHKOVSKIY M	82	TANTASHEV HV	42	UDOVIEV YU P	53, 79	VOLKOVITSKIY OA	41, 45
SOTIN' YE	8	SUCHKOVSKIY M	82	TARAN MD	34	UDOVIEV YU P	5, 11	VOLGOGRADIN VK	6
SOTNICHENKO SA	8	SUCHKOVSKIY M	82	TARASENKO VF	65	TARASOV ND	3	VOLGOGRADIN VK	6
SPESIVTSEV BI	8	SUCHKOVSKIY M	82	TAMANIS HYA	89	TARKHIN DV	21	VOLOSEVICH PP	87
STAMENOV KV	8	SUCHKOVSKIY M	82	TANTASHEV HV	75	TATARSKIY VA	54	VOLOSHINA YE A	81
STAROBOGATOV IO	8	SUCHKOVSKIY M	82	TARAN MD	28	TEKAYEV EB	53	VOLOVIK NV	16
STARODUB A N	8	SUCHKOVSKIY M	82	TARASOV ND	65	TEKAYEV EB	12	VOROB'YEVS P	21
STAROSTIN AN	8	SUCHKOVSKIY M	82	TARKHIN DV	11	TELEGIN GG	10	USTINOV ND	54
STASEL'KO DI	8	SUCHKOVSKIY M	82	TATARSKIY VA	54	TEL'GIN GG	12	USTINOV ND	54
STAUDZH VR	8	SUCHKOVSKIY M	82	TEKAYEV EB	50	TEL'GIN GG	10	USTINOV ND	54
STEFANOV V Y	8	SUCHKOVSKIY M	82	TELEGIN GG	10	TEL'GIN GG	10	USTINOV ND	54

		ZOLOTOREV M S	75
		ZOLOT'KO A S	27
		ZOLOTOV YE M	27
		ZUBAREV I G	29, 55
		ZUBAROVSKIY V M	5
		ZUBOV V A	54
		ZUBOVICH G K	1
		ZUYEV V S	15
		ZUYEV V YE	46
		ZVEREV G N	30
		ZVEREV V N	60
22	YERON'KO S B	83	
76	YERSHOVA L S	82	
62	YESHMEMET'YEVA YE V	23	
54	YESKIN N I	39	
55	YES'KIN V A	13	
86	YEVSYUKOV YE P	22	
25	YEVTYUNHIN N V	15	
13	YEVTYUHKOV K N	24	
63	YEZHKOVA N	35	
62	YUDIN I K	69	
62	YUDIN S F	14	
62	YUDIN V I	6	
61	YUNDENKO I N	60	
66	YUNOSHEV L S	62	
27	YURKOV YU V	37	
12	YURYSHEV N N	17	
		Z	
27	YACHNEV I L	17	6
	YAFAYEV N R	82	40, 45, 75
	YAKIMENKO M N	63	
	YAKOBI YU A	62, 74	87
	YAKOVLENKO S I	90	
	YAKOVLEV V I	74	47
	YAKUBOVICH S D	39	
	YAKUNIN V P	16	35
	YAKUSHEV A A	9	
	YAKUSHKINA L I	42	64, 86
	YAMPOL'SKIY V I	21	
	YANSON M L	57	35
	YAMUSHKEVICH V A	65	
	YARKULITSKIY V F	49	23
	YAROSMETSKIY I D	21, 49	
	YAROSLAVSKIY L P	42, 54	10
	YASHUNOV I V	2	
	YATSENKO N A	9	75
	YEFIMOV V F	29	
	YEFOREV YE L	37	80
	YEGOROV E A	48	
	YEGOROV V I	54	75
	YEGOROV V N	21	
	YEGOROV V S	19	82
	YELDSHEV N N	63	
	YELISEYEV P G	4	39
	YELKINA L P	25	
	YEPIKHIN V M	76	85
	YEREMENKO V V	77	
	YERMOLAYEV M H	48	3
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		ZABELLO YE I	1
		ZAKHARENKO S V	40, 45, 75
		ZAKHARENKO YU A	87
		ZAKHAROV M I	
		ZAKHAROV S H	
		ZAKHAROV S D	
		ZAPOROZHCHENKO R G	
		ZARGAR'YANTS M N	
		ZAROSLOV D YU	
		ZARUTSKIY M A	
		ZASAVITSKII I I	
		ZAYDEL' A N	
		ZAYTSEV S V	
		ZAYTSEVA N A	
		ZAYTSEV B YA	
		ZEYGER S G	
		ZHAVORDONOK I V	
		ZHDANOK S A	
		ZHEVLAKOV A P	
		ZHIGALKIN A K	
		ZHILKIN V A	
		ZHIRYAKOV B H	
		ZHOKHOV V A	
		ZHVAVYY S P	
		ZIBROV A S	
		ZINCHEMENKO V I	
		ZINOV'YEV A V	
		ZNIYEVSKOI G N	
		ZOLOTAYKIN A V	